WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

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(1885-1886)

SUMMARY AND REVIEW

OF

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U.S. Dept. of Commerce

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JANUARY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

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WASHINGTON, D. C.
FEBRUARY, 1886.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

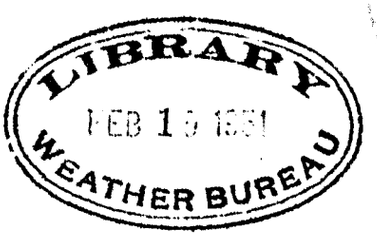
SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE YEARS 1885 AND 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS AND PUBLISHED BY AUTHORITY OF THE SECRETARY OF WAR.



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WASHINGTON, D. C.
1888.

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WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JANUARY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
FEBRUARY, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January, 1885.

Lines and vessels.	Captain.	Observer.
ALLAN LINE.		
Steamship Circassian	R. H. Hughes	C Gregson.
Grecian	C. E. Le Gallais	Le Gallais & Moar.
Norwegian	J. G. Stephen	W. White.
Prussian	Alex. McDougall	A. Mellabye.
Scandinavian	John Park	J. Miller, Chief Officer.
Siberian	R. P. Moore	T. R. Morris.
AMERICAN STEAMSHIP COMPANY.		
Steamship British Crown	G. Burton	H. Johnson.
British Princess	E. H. Freeth	C. Austin Scott.
Illinois	G. H. Dodge	
Lord Clive	P. Urquhart	T. L. Knight.
ANCHOR LINE.		
Steamship Devonia	Hugh Young	Captain.
Ethiopia	J. Wilson	C. C. Reid.
Furnessia	L. Garrick	G. Boyle.
Trinacria	G. Mitchell	Captain.
ANGLO-AUSTRALIAN LINE.		
Steamship Port Phillip	G. Dulling	O. W. Read.
ATLAS LINE.		
Steamship Andes	R. de Echevarrieta	Captain.
Ailsa	John W. Sansom	Captain.
Alvo	D. Williams	T. MacKnight.
Athos	H. Low	Captain.
BEAVER LINE.		
Steamship Lake Huron	William Bernson	Captain.
Lake Manitoba	Wm. Stewart	P. D. Murray.
Lake Champlain	M. L. Tranmar	Captain.
Lake Nepigon	H. Campbell	F. Clarey.
BRISTOL CITY LINE.		
Steamship Llandaff City	T. L. Weiss	Wm. Fitt.
CALIFORNIA & MEXICAN STEAMSHIP CO.		
Steamship Newbern	E. T. Rogers	Captain.
EDWARD CARR'S LINE.		
Steamship California	O. Winkler	
Australia	G. Franck	Captain.
CUNARD LINE.		
Steamship Aurania	W. H. P. Hains	W. E. D. Martin.
Bothnia	J. Roberts	H. McMillan.
Catalonia	A. McKay	A. W. Shelton.
Cephalonia	H. Walker	L. F. Sorot.
Gallia	M. Murphy	J. H. Mills.
Scythia	P. Whealan	F. Robertson.
FURNESS LINE.		
Steamship Durham City	M. P. Lund	Captain.
Stockholm City	K. Doyle	J. H. Hook.
GENERAL TRANS-ATLANTIC CO.		
Steamship Canada	G. S. de Kersabiec	A. Theibold.
St. Laurent	M. de Jousselin	Captain.
GUION LINE.		
Steamship Alaska	G. S. Murray	Captain.
Arizona	Samuel Brooks	Captain.
Wyoming	C. L. Rigby	E. Lamb.
HAMBURG AMERICAN PACKET CO.		
Steamship Bohemia	R. Karlowa	
Gellert	W. Kühlewein	
Lessing	B. Voss	Captain.
Rugia	A. Albers	
Westphalia	H. Barends	Magin.
Wieland	C. Hobich	Kuhn & Kühlewein.
INMAN LINE.		
Steamship City of Richmond	A. W. Lewis	Chas. Power.
City of Montreal	A. Redford	Captain.
JOHNSON LINE.		
Steamship Nessmore	John Inch	A. Moar.
LAMPORT & HOLT'S LINE.		
Steamship Hevelius	John Carroll	Captain.
LEYLAND LINE.		
Steamship Bulgarian	E. Parry	Captain.
Venetian	W. H. Trant	Captain.
Virginian	M. Fitt	W. Hanson.
LIVERPOOL, BRAZIL, AND RIVER PLATE STEAMSHIP COMPANY.		
Steamship Olbers	J. Clarke	Captain.
MALLORY LINE.		
Steamship Lampasas	M. B. Crowell	
San Marcos	A. C. Burrows	Captain.

Lines and vessels.	Captain.	Observer.
MEDITERRANEAN & N. Y. S. S. Co.		
Steamship Archimede	Domenico Viola	Captain.
Picqua	William Clayton	
MISSISSIPPI & DOMINION STEAMSHIP CO.		
Steamship Brooklyn	G. S. Dale	Captain.
Oregon	H. C. Williams	Captain.
Ontario	W. P. Couch	Captain.
Toronto	Jas. McAuley	Jos. Frith.
MORGAN LINE.		
Steamship Chalmette	R. B. Quick	Captain.
NATIONAL LINE.		
Steamship Canada	Wm. Pearce	
Denmark	J. Milligan	Captain.
Erin	J. Robinson	Captain.
France	W. Pearce	
Holland	Geo. Cochrane	J. S Grant.
Spain	J. Sumner	Captain.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.		
Steamship Cienfuegos	F. M. Faircloth	Faircloth & Dougherty.
NEW YORK, HAVANA AND MEXICAN MAIL STEAMSHIP COMPANY		
Steamship City of Alexandria	J. W. Reynolds	Captain.
NEW YORK HERALD WEATHER SERVICE.		
Steamship Acapulco	W. G. Shackford	
Alene	E. B. Selders	
Albano	H. R. Hughes	
Algiers	J. H. Percy	
Colon	S. G. Porter	
City of Puebla	J. Deaken	
City of Chicago	Fred Watkins	
Carn Marth	W. C. Boynes, C. O.	
Persian Monarch	W D uncombe	
Saratoga	J. Mc Intosh	
Zaandam	E. Chevalier	
NORTH GERMAN LLOYD STEAMSHIP CO.		
Steamship America	G. Meyer	Koenemann & Jacobs.
Baltimore	N. Freese	Captain.
Elder	W. Willigerod	F. Mirow.
Elbe	F Hamelmann	A. Gorsbach.
Fulda	C. Heimbruch	Grosch.
General Werder	H. Christoffers	Albrecht & Kiehne.
Habsburg	F. Pfeiffer	Trane & Prehn.
Hermann	H. Baur	E. Steinbrunn.
Main	H. Hellmers	Strunck & Vovell.
Neckar	R Russius	
Nurnberg	A. Jaeger	Burgwald & Sibert.
Saller	C. Wiegand	R. Richter.
Strassburg	H. Heineke	Dorstling & Mueller.
Werra	J. Barre	Captain.
Weser	H. Bruns	Hillgenhoff.
OCCIDENTAL & ORIENTAL STEAMSHIP COMPANY.		
Steamship Arabic	W. G. Pearne	C. Salmond.
Oceanic	J. Metcalfe	Geo. T. Tilston.
OCEAN STEAMSHIP COMPANY.		
Steamship City of Augusta	K. S. Nickerson	N. F. Howes.
OREGON RAILWAY & NAVIGATION CO.		
Steamship City of Chester	T. Wallace	
Columbia	F. Bolles	A. Fedizen.
Oregon	E. Polemann	C. Christonsen.
OCEANIC STEAMSHIP COMPANY.		
Steamship Alameda	H. G. Morse	2d and 3d officers.
Mariposa	H. M. Hayward	T. Golding.
PACIFIC COAST STEAMSHIP COMPANY.		
Steamship Ancon	J N. Ingalls	Captain.
G. W. Elder	H. S. Ackley	Captain.
Mexico	T Huntington	
Santa Rosa	C. B. Johnson	Captain.
PACIFIC MAIL STEAMSHIP COMPANY.		
Steamship Australia	R. C. Ghent	L. L. Stewart.
City of New York	R. R. Searle	J. A. Christiansen.
City of Pekin	G. G. Berry	T. Mortenson.
City of Rio de Janeiro	W. B. Cobb	G. Ankers.
City of Sydney	H. C. Dearborn	J T. Smith.
City of Tokio	Jefferson Maury	
Colima	W B. Seabury	J. M Boyle.
Granada	M. Connolly	
San Blas	T Chapman	
QUEBEC STEAMSHIP COMPANY.		
Steamship Muriel	G. S. Locke	Captain.
Orinoco	J S. Garvin	Captain.
RED STAR LINE.		
Steamship Belgenland	W. A. Boynon	Captain.
Nederland	A. J. Griffin	Captain.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JANUARY, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.								Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.87	758.7	29.98	761.5	65.7	18.7	55	1	.....	.....	5	10	11	2	.....	2	.....	.....	2	0.23	5.8
Hobart Town.*a*	S. 42 53	E. 147 20	9.49 p.m.	190	58	29.68	753.9	29.87	758.7	58.3	14.6	82	3	5	2	2	9	5	1	1	2	.....	.....	6	2.45	62.2
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.89	759.2	29.96	761.0	61.7	16.5	70	1	.....	2	3	8	16	1	.....	.....	.....	.....	4	0.75	19.0
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.57	751 0	30.15	765.9	33.3	0.7	58.6	1	2	3	3	.....	.....	4	18	.....	.....	.....	7	1.53	38.9
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.38	746.2	30.21	767.2	26.8	— 2.9	86.8	.....	.....	3	6	2	.....	.....	20	.....	.....	.....	6	0.25	6.3
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.27	743.4	30.20	767.0	24.3	— 4.3	79.7	3	.....	.....	.....	3	.....	.....	.....	25	.....	.....	5	0.80	20.3
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.84	732.4	30.15	765.9	29.7	— 1.3	81.1	.....	3	4	7	8	.....	.....	4	2	3	.....	5	2.50	63.4
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.69	728.6	30.19	766.7	33.4	0.8	74.0	1	.....	.....	.....	16	7	7	.....	.....	.....	.....	5	0.06	1.6
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.65	727.8	30.10	764.5	25.0	— 3.9	84.6	.....	.....	2	1	.....	.....	7	4	17	.....	.....	5	0.48	12.2
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.17	740.9	30.23	767.9	28.2	— 2.1	68.9	2	4	6	4	.....	8	1	6	.....	.....	.....	4	0.17	4.3
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.91	759 6	30.02	762.5	42.3	5.7	64.0	2	1	3	1	.....	3	2	15	4	.....	.....	5	2.30	58.3
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.66	753.3	30.15	765.9	36.5	2.5	74.0	1	2	4	2	10	7	3	2	.....	.....	.....	2	0.56	14.2
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	256	78	29.84	757.9	30.13	765.4	34.2	1.2	79.4	3	2	3	.....	9	4	2	2	6	.....	.....	5	0.17	4.3
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.96	760.9	30.06	763.4	40.3	4.6	62.4	.....	.....	.....	1	.....	3	6	18	3	.....	.....	6	2.63	66.7
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.39	746.4	30.17	766.4	28.0	— 2.2	81.5	1	1	2	.....	2	11	2	5	7	.....	.....	5	1.22	31.0
Belgian																										
Arlon	N. 49 40	E. 5 48	0.23 p.m.	?	?	28.50	724.0	29.96	760.9	30.9	— 0.6	94.0	.....	.....	:	4	9	.....	8	9	.....	.....	.....	5	2.42	61.4
Brussels.*a*	N. 50 51	E. 4 22	0.17 p.m.	187	57	29.74	755.3	29.96	761.0	34.9	1.6	85.8	.....	2	1	5	10	3	4	5	.....	.....	.....	6	1.79	45 4
Furnes.*f*	N. 51 04	E. 2 40	0.11 p.m.	20	6	29.82	757.4	29.85	758.3	35.8	2.1	91.4	1	2	.....	5	4	4	4	5	.....	.....	.....	6	2.13	54.0
Maseyck	N. 51 06	E. 5 48	0.23 p.m.	115	35	29.83	757.6	29.97	761 2	36.9	2.7	77.5	1	.....	1	4	11	3	6	5	.....	.....	.....	8	1.04	26.5
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.72	754.9	29.85	758.2	38.4	3.6	80.2	4	.....	2	5	10	9	1	.....	.....	10936	17600	8	1.76	44.7
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.84	757.9	38.9	3.8	81.1	1	3	1	5	3	10	6	2	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.28	743.7	29.84	757.9	37.2	2.9	86.4	1	2	1	4	8	8	3	4	.....	.....	.....	9	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.47	748.5	29.88	758.9	38.6	3.7	85.6	2	2	2	5	4	6	6	4	.....	.....	.....	9	1.63	41.4
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	30.00	762.0	29.96	761.0	80.6	27.0	74.0	.....	.....	.....	.....	.....	.....	.....	20	11	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.74	755.4	29.93	760.2	38.9	3.8	80.2	3	1	4	6	1	1	9	.....	6	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.63	752.6	29.87	758.7	44.1	6.7	83.2	5	4	3	3	4	4	8	.....	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.60	701.0	29.88	758.9	79.1	26.2	53.7	3	.....	1	.....	4	8	13	2	.....	.....	.....	8	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.71	754.6	29.87	758.7	83.5	28.6	83.7	7	.....	7	4	8	2	3	.....	.....	.....	.....	5	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.67	753.6	29.73	755.1	41.8	5.4	85.4	1	2	4	7	2	10	1	4	.....	.....	.....	3	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	55.3	12.9	86.5	3	11	.....	2	.....	1	11	3	.....	.....	.....	7	2.87	72.9
Greenwich	N. 51 29	0 00	0.00 m.	159	48	29.72	754.9	29.92	760.0	38.4	3.6	84.7	1	2	1	5	8	1	9	4	.....	.....	.....	5	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.60	751.8	29.91	759.7	42.3	5.7	82.2	3	2	.....	1	6	9	9	1	.....	8967	14431	8	3.16	80.3
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.87	758 7	29.93	760.2	38.4	3.6	80.2	2	1	3	2	8	4	7	4	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.62	752.3	29.50	759.4	38.5	3.6	86.5	.....	1	.....	13	6	3	.....	8	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.84	757.9	29.90	759.4	54.3	12.4	76.4	.....	12	.....	12	1	3	.....	3	.....	.....	.....	9	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.12	765.0	30.12	765 0	71.9	22.2	87.5	.....	.....	.....	2	5	11	7	6	.....	.....	.....	6	4.07	103.4
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.65	753.1	29.90	759.4	38.5	3.6	87.4	2	1	1	3	9	7	2	6	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.78	756 4	29.87	758.7	42.1	5.6	87.8	1	3	3	4	1	6	5	5	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.64	752.8	29.78	756.4	38.9	3.8	91.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Comet'y.	N 41 00	E. 29 03	1.56 p.m.	60	18	30.02	762.5	30.08	764 0	44.1	6.7	68.7	5	.....	.....	1	3	3	2	17	.....	.....	.....	7	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	29.77	756.1	29.82	757.4	39.6	4.2	82.9	7	.....	3	9	1	1	8	2	.....	.....	.....	8	1.95	49.5
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.86	758.4	38.3	3.5	81.0	2	2	3	4	5	2	7	6	.....	.....	.....	8	3.52	89.4
Valencia	N. 51 55	W. 10 18	11.19 a.m	23	7	29.74	755.4	29.78	756 4	45.3	7.4	81.2	2	3	4	1	7	8	2	4	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.55	750.6	29.93	760.2	54.1	12.3	69.3	1	10	6	4	2	3	3	2	.....	5903	9500	7	6.07	154.2
Canadian.																										
Bathurst.*d*	N. 47 39	W. 65 42	7.37 a m.	35	11	29.89	759.2	29.94	760.5	6.6	—14.1	.....	.....	.....	4	10	1	2	.....	2	8	.....	.....	7	2.52	64.0
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.88	758.9	29.92	760.0	14.9	— 9.5	87.9	1	9	5	5	5	1	1	3	1	7569	12181	5	4.23	107.4
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.86	758.4	29.93	760.2	5.2	—14.9	95.0	.....	4	4	19	.....	.....	.....	3	1	4670	7516	4	3.17	80.5
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.75	755.6	29.96	761.0	12.6	—10.8	90	.....	11	7	4	.....	.....	4	5	.....	.....	.....	7	1.91	48.5
Dalhousie.*e*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.89	759.2	29.95	760.7	2.0	—16.7	.....	.....	1	19	.....	.....	.....	3	.....	8	.....	.....	8	4.53	122.7
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.90	759.4	29.93	760.2	5.3	—14.8	88.6	2	4	7	7	4	1	3	2	1	13473	21682	8	2.50	63.5
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.19	741.4	30.17	766.3	—17.8	—27.7	98.5	8	8	2	5	6	1	.....	.....	1	8378	13483	3	0.23	5.8
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.90	759.4	29.97	761.2	6.9	—13.9	89	1	12	2	1	1	.....	3	10	5270	8481	5	4.05	102.9
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.94	760.5	30.00	762.0	20.3	— 6.5	73.3	3	13	7	1	2	.....	2	1	2	.....	.....	6	3.58	90.9
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28 89	733.8	30.09	764.3	12.6	—10.8	95	1	9	5	6	3	1	1	4	.....	.....	.....	8	3.05	77.5
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.86	758.4	30.00	762.0	18.2	— 7.7	84.9	3	1	11	5	10	.....	1	.....	.....	.....	.....	5	6.42	163.1
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	350	107	29 62	752.3	30.03	762.7	16.2	— 8.8	85	.....	.....	.....	3	25	.....	.....	2	1	.....	.....	6	2.74	69.6
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.64	752.8	30.00	762.0	16.1	— 8.8	82.7	4	5	7	4	3	4	2	1	1	7254	11674	7	3.20	81.3
LittleGlace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.79	756.7	29.83	757.7	20.7	— 6.3	85	1	12	6	8	1	2	.....	1	.....	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	816	248	29.12	739.0	30.10	764.5	14.3	— 9.8	85	2	3	5	5	2	2	.....	.....	12	3889	6259	7	4.29	109.0
Medicine Hat.*b*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.68	703.1	30.24	768.1	— 1.3	—18.5	94.6	3	.....	3	7	3	.....	.....	1	12	4468	7190	5	2.03	51.6
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	27.95	709 9	30.17	766.3	—16.2	—26.8	.....	3	15	7	.....	.....	3	1	1	1	.....	.....	2	0.36	9.1
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.78	756.4	30.00	762.0	10.7	—11.8	84.2	3	3	6	8	6	3	1	1	.....	.....	.....	7	3.37	85.6
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	224	68	29.75	755.6	29.99	761.7	9.0	—12.8	89	1	7	4	9	1	2	2	5	.....	6716	10808	7	0.92	23.4
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.23	742.4	29.99	761.7	8.3	—13.2	80.6	8	.....	.....	8	7	1	2	2	1	8038	12936	7	3.95	100.3
Peterboro.*a*	N. 44 17	W. 78 18	6.47 a.m.	688	210	29.21	741.9	30.00	762.0	13.6	—10.2	85	2	2	4	7	1	1	.....	3	10	.....	.....	7	2.09	53.1
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.28	743.7	30.08	764.0	—8.9	—22.7	86.5	3	1	11	3	2	.....	.....	.....	11	3555	5721	3	0.21	5.3
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.31	744.5	30.06	763.5	16.0	— 8.9	94.5	.....	4	8	13	1	.....	1	2	2	8175	13156	7	2.40	61.0
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.38	746.2	30.09	764 3	15.1	— 9.4	84.2	.....	1	17	5	2	1	4	1	.....	.....	.....	6	3.07	78.0
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.63	701 8	30.24	768 1	—12.0	—24.4	.....	1	9	6	5	3	.....	.....	.....	7	8938	14384	4	0.65	16.5
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.58	751.3	29.97	761.2	4.9	—15.1	84.2	.....	.....	7	8	.....	.....	2	2	12	.....	.....	6	3.82	97.0
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.43	747.5	29.94	760.5	2.8	—16.2	83.8	.....	4	5	.....	.....	3	4	.....	15	.....	.....	7	2.05	52.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.93	760.2	29.98	761.5	15.9	— 8.9	91.1	1	11	5	3	2	1	1	3	4	.....	.....	5	3.76	95.5
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.84	757.9	30.00	762.0	15.3	— 9 3	84	2	5	8	3	5	.....	1	1	6	.....	.....	6	4.46	113.3
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.23	742.4	30.00	762.0	15.8	— 9.0	92.0	3	3	5	7	5	1	2	5	.....	12853	20684	10	5.78	146.8
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.70	729.0	30.09	764.3	12.2	—11.0	87	1	3	2	12	.....	.....	5	4	4	5292	8516	7	3.97	100.8
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.82	757 4	29.88	758.9	18.9	— 7.3	87.8	.....	.....	4	12	7	4	.....	2	1	12507	20128	6	6.53	165.9
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.63	752.6	30.04	763.0	15.9	— 8.9	84.2	2	3	10	11	1	.....	1	3	.....	9871	15886	7	2.77	70.4
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.96	735.6	30.08	764.0	13.8	—10.1	76	1	1	8	5	5	3	1	2	5	.....	.....	8	2.91	73.9
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.93	760.2	30.03	762.7	25.3	— 3.7	83.2	4	10	3	3	1	2	4	2	2	.....	.....	8	5.96	151.4
Cape Colony																										
Cape Town.*a*	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.91	759.7	.....	.....	79.0	26.1	51.3	1	8	1	.....	1	9	.....	7	3	.....	.....	2	0.52	13.2
Springbok.*c*	S. 29 45	E. 17 43	1.11 p.m.	?	?	27.87	707.9	.....	.....	84.8	29.3	43.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.1
Chilian.																										
Coquimbo	S. 29 56	W. 71 21	7.15 a.m	72	22	29.88	719.0	29.92	759.9	64.9	18.3	88.0	12	.....	2	4	1	7	2	3	.....	.....	.....	8	.....	.....
Iquique	S. 20 12	W. 70 11	7.19 a.m	26	8	29.91	759.7	29.88	758.9	69.1	20.6	77.0	1	1	2	16	9	2	.....	.....	.....	.....	.....	3	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Chilian—Con.	° ′	° ′																								
Niebla	S 39 53	W. 73 25	7.06 a.m	98	30	29.49	749.1	29.59	751.5	59.7	15.4	78.0	2	7	2	.....	.....	.....	20	.....	.....	.....	.....	5	5.61	142.6
Punta Caldera	S 27 03	W. 70 53	7.16 a.m.	82	25	29.90	759.4	29.93	760.3	65.7	18.7	82.0	2	8	.....	7	2	4	.....	8	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.04 a.m.	174	53	29.86	758.5	30.04	763.0	.....	.....	.....	4	2	1	22	1	.....	.....	1	.....	.....	.....	6	3.65	92.8
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.72	755.0	29.90	759.5	64.6	18.1	71.0	1	4	12	1	3	8	2	.....	.....	.....	.....	6	2.50	63.4
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	82	25	29.82	757.4	29.87	758.8	64.4	18.0	86.0	2	.....	5	8	12	1	3	.....	.....	.....	.....	6	.....	.....
Chinese.																										
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	30.11	764 8	30.17	766.3	58.4	14.7	78.9	6	.....	1	.....	.....	.....	16	8	.....	.....	.....	6	0.87	22.1
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E.121 26	8.06 p.m.	23	7	30.40	772.2	30.39	771.8	35.1	1.7	76.8	11	9	3	1	.....	1	3	2	1	.....	.....	7	1.95	49.8
Danish.																										
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.99	761.7	30.07	763 8	33.4	0.8	89	.....	.....	2	6	8	5	6	4	.....	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.95	760.8	30.00	762.1	31.8	— 0.1	91	1	1	1	7	4	9	4	4	.....	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.37	745 9	29.46	748.3	33.6	0.9	84	1	.....	.....	3	3	13	3	4	4	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.63	752.6	29.65	753.2	40.5	4.7	85	1	.....	1	6	7	9	2	1	4	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.16 a.m.	39	12	29.35	745.4	29.46	748.3	3.2	—16.0	.....	.....	.....	1	4	1	2	16	.....	7	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.88	758 9	30.00	762.1	31.3	— 0.4	92	.....	.....	1	1	6	7	9	6	1	.....	.....	8	.....	.....
Egyptian.																										
Cairo	N. 30 03	E. 31 21	2.05 p.m.	?	?	29.91	759 6	.....	.....	61.5	16.4	.....	3	2	5	11	5	.....	.....	5	.....	.....	.....	6	2.18	55.4
French.																										
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.35	745.6	30.02	762 6	38.1	3.4	89.0	.....	3	1	1	7	11	2	1	.....	.....	.....	6	0.53	13.4
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.42	747.3	29.98	761.5	35.4	1.9	86.3	11	2	2	2	8	1	5	.....	.....	.....	.....	7	0.72	18.2
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.72	755.0	30.00	761.9	34.2	1.2	86.0	3	4	1	3	2	5	6	7	.....	.....	.....	5	0.69	17.5
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.94	760.5	30.02	762.5	40.5	4.7	71.4	18	2	.....	1	1	1	2	6	.....	.....	.....	4	1.39	35.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.42	747.2	30.01	762.2	34.3	1.3	81.0	1	.....	.....	2	6	18	1	3	.....	.....	.....	6	1.04	26.4
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.06	738.2	29.98	761.6	36.9	2.7	89.8	4	.....	.....	3	5	.....	.....	19	.....	.....	.....	2	0.65	16.5
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.70	754.3	29.97	761.1	40.8	4.9	80.3	1	2	.....	3	2	16	6	1	.....	.....	.....	4	1.10	27.8
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.35	745.6	29.90	759 4	37.8	3.2	80.8	.....	2	3	2	2	3	14	5	.....	.....	.....	7	0.70	17.7
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.68	753.9	29.93	760.3	44.4	6.9	91.4	3	1	2	6	4	8	2	4	1	.....	.....	7	1.91	41.5
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.85	758 2	29.93	760 2	37.8	3.2	89.6	10	2	2	6	1	4	2	4	.....	.....	.....	5	1.03	26.2
Châlons sur Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.63	752.7	29.96	761.0	34.0	1.1	86.0	2	2	2	2	6	9	1	3	4	.....	.....	6	1.32	33.5
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.43	747.6	29.98	761.5	34.9	1.6	86.5	5	2	2	2	4	7	2	7	.....	.....	.....	6	2.32	58.9
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.59	726.2	30.00	761.9	36.3	2.4	72.2	3	6	8	3	7	1	1	2	.....	.....	.....	6	0.76	19.2
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.13	739.9	30.01	762.3	34.0	1.1	72.2	10	.....	1	4	4	4	5	3	.....	.....	.....	.....	0.55	13.9
Commercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.11	739.5	30.05	763.2	31.1	— 0.5	84.5	.....	.....	4	4	4	1	17	1	.....	.....	.....	.....	1.00	25.3
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.42	696.4	30.05	763.3	34.5	1.4	76.6	.....	2	.....	.....	.....	.....	.....	3	26	.....	.....	.....	0.60	15.2
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.84	732.4	30.00	762.0	43.9	6.6	61.0	11	5	.....	1	2	.....	7	5	.....	.....	.....	4	2.38	60.5
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.28	743.7	30.07	763.8	33.6	0.9	90.1	3	6	1	4	4	4	4	5	.....	.....	.....	.....	0 22	5.6
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.32	719.3	29.91	759.7	37.6	3.1	69.0	2	3	2	4	3	6	.....	2	9	.....	.....	4	0.34	8.7
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.64	752 8	29.92	760.0	40.1	4.5	88.4	5	1	1	3	6	9	6	.....	.....	.....	.....	5	1.63	41.4
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.45	748.1	30.01	762.3	48.2	9.0	56.7	.....	2	3	9	1	2	7	7	.....	.....	.....	.....	2.24	56.9
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.84	758.0	29.95	760.8	42.6	5.9	77.3	2	3	1	1	6	4	8	5	1	.....	.....	6	2.46	62.6
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.93	734.8	30.03	762.8	34.2	1.2	80.1	7	2	1	.....	8	5	7	1	.....	.....	.....	3	0.33	8.4
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.66	753 3	29.99	761.7	36.3	2.4	83.3	.....	1	2	7	4	5	5	7	.....	.....	.....	6	1.22	31.1
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.70	754 4	29.97	761.2	48.9	9.4	65.4	.....	7	4	5	2	6	7	.....	.....	.....	.....	.....	2.40	60.9
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.69	627.0	29.48?	748.8?	30.2	— 1.0	56.0	5	4	4	14	1	1	1	1	.....	.....	.....	4	2.72	69.1
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.84	757.9	29.95	760.6	44.4	6.9	71.4	12	7	.....	1	4	5	.....	.....	.....	.....	.....	4	2.60	65.9
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.65	600.8	.....	.....	.....	.....	.....	6	6	2	1	7	7	.....	2	.....	.....	.....	4	5.28	134.0
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.20	741.6	30.03	762 7	32.4	0.2	83.1	10	3	2	3	3	4	2	4	.....	.....	.....	.....	1.58	40.2
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.82	757.3	29.98	761.4	40.5	4.7	81.9	3	4	1	1	6	6	5	5	.....	.....	.....	8	1.23	31.3
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.87	758.8	29.98	761 5	46.6	8.1	63.0	2	10	1	2	2	3	5	6	.....	.....	.....	6	1.31	33.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	20.96	532.5	.....	.....	20.1	— 6.6	.....	.....	.....	3	2	6	.....	.....	4	6	10	.....	.....	6.64	168.7
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.91	734 2	30.02	762.4	37.8	3.2	78.5	9	4	1	1	4	3	.....	3	6	.....	.....	3	.....	.....
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	24.97	634.1	.....	.....	27.7	— 2.4	79.0	4	6	2	7	3	4	4	1	.....	.....	.....	8	3.66	93.0
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.95	760 7	29.98	761.5	42.1	5.6	76.0	.....	2	1	.....	8	12	4	4	.....	.....	.....	5	1.06	27.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.66	753.3	29.96	760.9	40.5	4.7	81.0	3	5	.....	2	3	9	4	5	.....	.....	.....	5	1.46	37.0
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.80	706.1	30.01	762.2	36.9	2.7	74.7	3	4	1	.....	2	15	1	.....	5	.....	.....	.....	1.47	37.3
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.91	759.8	29.97	761.2	36.3	2.4	79.9	1	3	1	1	3	15	6	1	.....	.....	.....	5	0.80	20.3
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.82	757.4	29.98	761.6	34.5	1.4	83.2	8	2	1	5	4	5	5	1	.....	.....	.....	7	0.88	22.3
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.32	744.6	30.04	762.9	39.0	3.9	85.3	.....	7	3	2	1	11	4	3	.....	.....	.....	5	1.44	36.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.82	757.3	29.98	761.5	38.5	3.6	.....	4	2	1	1	2	5	3	13	.....	.....	.....	.....	0.70	17.7
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.50	749.4	29.96	761.0	33.8	1.0	77.4	3	1	1	9	1	8	6	1	1	.....	.....	6	1.36	34.5
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.83	757.6	29.98	761.4	44.4	6.9	71.0	2	.....	2	5	1	4	10	7	.....	.....	.....	5	3.61	91.8
German.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.55	725.2	30.09	764.2	29.1	— 1.6	72.3	.....	.....	5	2	1	5	2	.....	16	.....	.....	5	0.59	14.9
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.17	740.8	30.02	762.4	30.4	— 0.9	69.2	1	2	.....	3	1	8	3	5	8	.....	.....	5	0.48	12.1
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.89	759.2	30.06	763.4	31.1	— 0.5	78.9	.....	1	6	4	8	2	6	4	.....	.....	.....	7	0.83	21.0
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.61	752.0	30.16	766.0	28.8	— 1.8	80.7	.....	.....	2	3	6	12	7	1	.....	.....	.....	5	0.49	12.4
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.57	751 1	30.06	763.4	32.9	0.5	75.8	.....	.....	.....	17	1	.....	5	8	.....	.....	.....	5	0.51	13.0
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.26	743.3	29.99	761.8	30.4	— 0.9	82.2	4	1	.....	7	8	1	.....	2	8	.....	.....	6	0.85	21.6
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.65	753 2	30.10	764.6	32.2	0.1	74.3	2	.....	2	8	4	2	3	7	3	.....	.....	6	0.82	20.9
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.58	725.9	30.08	764.0	28.2	— 2.1	81.5	1	2	2	6	.....	.....	1	19	.....	.....	.....	7	0.96	24.4
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.94	760 5	30.05	763.3	31.1	— 0.5	84.2	.....	1	.....	7	2	7	11	3	.....	.....	.....	6	1.72	43.7
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.99	761.8	30.03	762.8	33.1	0.6	79.9	.....	.....	2	7	4	5	9	3	1	.....	.....	6	2.00	50.8
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.62	752 4	30.08	764 0	28.8	— 1.8	90.5	4	1	1	4	7	3	4	7	.....	.....	.....	7	0.87	22.0
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.85	758.1	30.07	763.7	29.7	— 1.3	82.2	.....	1	2	5	3	8	8	3	1	.....	.....	5	0.79	20.0
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.10	764.6	30.18	766 5	28.2	— 2.1	88.6	1	2	3	6	4	7	5	3	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.15	714 9	30.01	762.3	25.9	— 3.4	73.0	3	3	3	.....	1	.....	6	6	9	.....	.....	4	0.43	10.9
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.12	765.0	30.18	766.6	29.3	— 1.5	83.5	1	.....	2	4	9	12	3	.....	.....	.....	.....	6	0.53	13.4
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.49	749.1	30.03	762 8	33.3	0.7	82.2f	3	.....	4	2	2	.....	3	5	12	.....	.....	6	0.93	23.7
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.11	739.4	30.05	763 3	32.7	0.4	76.1	2	1	1	9	.....	2	.....	14	2	.....	.....	4	0.40	10.1
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.03	762.7	30.08	763.9	51.1	10.6	85.5	.....	.....	.....	5	5	13	7	1	.....	.....	.....	7	1.07	27.1
Greek.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	361	110	29.64	752.8	30.01	762.3	50.7	10.4	76.3	14	1	.....	5	1	5	1	4	...	.....	.....	6	4.42	112.3
Indian.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	30.01	762.2	30.01	762.2	70.3	21.3	52	1	2	5	13	1	1	4	4	.....	.....	.....	2	1.84	46.7
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.56	750 8	29.98	761.5	75.6	24.2	27	10	8	5	2	1	2	.....	3	.....	.....	.....	3	0.05	1.3
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.96	761.0	29.94	760 5	76.9	24.9	71	7	19	4	1	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28 11	714.0	29.89	759.2	82.6	28.1	28	.....	9	5	6	1	8	2	.....	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.43	696.7	29.88	758 9	80.0	26.7	31	.....	9	.....	4	.....	3	10	5	.....	.....	.....	1	0	0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	732	223	29.35	745.5	30.09	764 3	58.6	14.8	65	1	1	5	.....	.....	.....	1	2	21	.....	.....	5	1.47	37.3
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.13	739.9	30.03	762 7	61.3	16.3	66	.....	4	13	1	2	3	.....	.....	8	.....	.....	5	4.00	101.6
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.50	749.3	30.03	762.7	65.8	18.8	54	.....	17	6	1	.....	3	2	2	.....	.....	.....	4	0.27	6.9
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.95	735.3	29.94	760 5	79.3	26.3	43	.....	.....	2	1	6	3	1	.....	18	.....	.....	3	0	0
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.65	727.7	29.98	761.5	71.5	21.9	55	2	2	.....	.....	1	2	.....	7	17	.....	.....	2	1.29	32.8
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.67	753.6	30.02	762.5	67.2	19.6	48	6	6	6	3	.....	1	1	3	5	.....	.....	3	0.67	17.0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.74	755.4	30.02	762 5	64.4	18.0	76	1	4	1	.....	.....	.....	1	2	22	.....	.....	1	1.11	28.2
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.88	758 9	30.02	762.5	65.8	18.8	62	.....	9	16	2	.....	.....	2	.....	2	.....	.....	1	0.24	6.1
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	28.00	711.2	30.00	762.0	65.8	18.8	45	8	20	2	1	.....	.....	.....	.....	.....	.....	.....	2	0	0
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.95	760.7	29.98	761.5	77.7	25.4	62	.....	4	.....	2	2	1	2	3	17	.....	.....	2	0	0
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	30.02	762 5	29.99	761 7	69.4	20.8	68	9	9	4	4	1	1	.....	1	2	.....	.....	1	0.42	10.7
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.93	760.2	30.00	762 0	66.2	19.0	63	.....	.....	.....	.....	.....	.....	2	.....	29	.....	.....	1	0.32	8.1
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.96	761.0	30.00	762.0	69.4	20.8	66	1	8	8	1	.....	.....	.....	.....	13	.....	.....	1	0	0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.74	755.4	30.04	763 0	60.5	15.8	85	.....	.....	.....	.....	1	.....	2	.....	25	3	.....	4	1.49	37.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.59	726.2	30.03	762.7	66.1	18.9	48	6	10	3	3	2	3	1	2	1	.....	.....	5	0.52	13.2
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.49	723.6	.....	.....	83.6	28.7	30	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.74	755.4	29.95	760.7	82.5	28.1	56	1	.....	.....	.....	.....	1	14	15	.....	.....	.....	3	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.58	751.2	30.00	762.0	40.8	4.9	56	5	.....	.....	1	...	6	11	3	5	.....	.....	5	2.96	75.1
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.54	750.3	30.08	764.1	35.2	1.8	78	1	2	4	10	3	3	6	2	.....	.....	.....	6	3.01	76.4
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.95	760.6	30.06	763.5	38.3	3.5	65	8	5	.....	1	1	2	4	9	1	.....	.....	6	2.90	73.6
Moncalieri	N. 45 00	E. 7 41	0.31 p.m.	846	258	29.13	739.8	30.08	764.1	33.3	0.7	82	1	20	.....	5	2	.....	3	.....	.....	.....	.....	4	5.70	144.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.79	756.6	29.98	761.6	44.2	6.8	57	17	1	.....	2	.....	2	2	7	.....	.....	.....	4	4.58	116.3
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.97	761.2	30.02	762 5	40.1	4.5	74	.....	20	.....	3	.....	1	1	6	.....	.....	.....	9	5.90	149.9
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.72	754.8	29.98	761.6	43.2	6.2	62	7	1	1	1	2	1	4	14	.....	.....	.....	6	2.64	67.0
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.91	759.6	29.99	761.8	44.2	6.8	61	.....	.....	1	.....	2	.....	9	19	.....	.....	.....	5	3.57	90.6
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.76	755 8	29.93	760 1	47.8	8.8	63	22	1	2	.....	4	2	.....	.....	.....	.....	.....	7	8.08	205.3
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.70	754.3	29.95	760 6	50.0	10.0	71	5	5	4	.....	3	7	3	4	.....	.....	.....	7	5.41	137.3
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.05	737 b	29.95	760.8	44.2	6.8	74	2	9	.....	5	5	7	2	1	.....	.....	.....	8	8.78	223.1
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.70	754.4	29.94	760.4	52.5	11.4	62	1	8	4	3	.....	.....	3	9	3	.....	.....	8	5.30	134.7
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.87	758.8	29.90	759 4	53.6	12.1	64	3	9	9	2	2	.....	1	5	.....	.....	.....	7	0.44	163.5
Sub-Series.																										
Naples.*f*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.40	746.8	.....	.....	48.0	8.9	72.2	5	3	2	3	1	3	.....	8	.....	.....	.....	7	4.03	102.3
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.03	559.5	.....	.....	15.6	— 9.1	68.6	.....	.....	1	6	3	1	6	14	.....	.....	.....	3	2.26	57.5
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	21.96	557.9	.....	.....	18.3	— 7.6	60.8	1	7	4	5	1	4	5	4	.....	.....	.....	3	5.51	140.0
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	30.04	763.1	30.06	763.6	27.0	— 2.8	86.2	4	13	.....	1	1	.....	4	.....	8	.....	....	9	5.13	130 3
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	30.00	761.9	30.02	762.6	23.7	— 4.6	79.1	2	5	7	5	11	.....	.....	...	1	a8356	a13448	9	4.48	113.9
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.99	761.8	29.99	761.8	22.8	— 5.1	84.0	8	5	12	.....	1	.....	1	.....	4	8599	13838	6	1.91	48.6
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	30.02	762.6	30.09	764.3	36.0	2.2	65.0	.....	5	22	.....	.....	.....	1	.....	3	.....	.....	3	1.45	36.8
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	13	4	30.23	767.9	30.21	767.4	35.6	2.0	77.2	20	.....	.....	4	2	1	1	.....	2	1	.....	5	1.29	32.7
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.24	768.1	30.22	767.5	41.7	5.4	78.8	17	6	2	.....	1	1	...	4	.....	.....	.....	6	1.91	48.4
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	30.03	762.7	30.17	766.3	32.7	0.4	83.9	1	7	3	2	1	.....	2	...	15	b1814	b2919	6	1.85	47.0
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.19	766.9	30.18	766.6	39.6	4.2	71 5	2	7	9	3	.....	4	5	1	5352	8612	4	0.80	20.2
Miasaka	N. 31 56	E.131 26	8.46 p.m.	26	8	30.21	767.4	30.19	766 9	40.6	4.8	81.8	6	.....	20	1	1	.....	3	.....	.....	.....	.....	4	1.34	34.0
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.92	759.9	30.01	762 3	25.3	— 3.7	68.4	1	.....	11	12	.....	.....	.....	.....	7	2152	3463	3	0.47	12.0
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	30.06	763.5	30.24	768.1	39.6	4.2	77.0	17	4	.....	.....	.....	3	1	4	2	3355	5400	6	1.91	48.4
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.86	758.5	29.91	759 7	19.0	— 7.2	61.1	3	6	2	2	.....	1	1	2	14	5826	9376	4	0.40	10.2
Niigata	N. 37 55	E.139 03	9.16 p.m.	32	10	30.09	764.2	30.10	764.6	31.1	— 0 5	77.8	1	5	13	2	5	5	.....	.....	.....	6783	10924	9	4.63	117.6
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	30.04	762.9	30.03	762.8	25.9	— 3.4	80.8	20	7	2	1	.....	.....	.....	.....	1	8770	14114	2	0.54	13.8
Numadzu	N. 35 06	E.138 51	9.15 p.m.	33	10	30.03	762.8	30.04	762.9	37.9	3.3	69.7	3	1	3	3	1	1	18	1	.....	.....	.....	4	1.91	48.6
Osaka	N. 34 41	E.135 30	9.02 p.m.	30	9	30.17	766.4	30.19	766.7	35.2	1.8	77.5	6	8	7	1	3	1	2	3	.....	7337	11808	4	0.96	24.3
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.22	767.5	30.20	767.1	35.6	2.0	78.7	6	3	18	2	1	.....	1	.....	.....	.....	.....	4	6.29	159.7
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.11	764.9	30.23	767.8	38 7	3.7	74.0	3	3	3	3	.....	.....	.....	3	16	.....	.....	5	2.30	58.5
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	30.01	702.2	30.06	763.6	32.5	0.3	71.8	12	11	4	.....	1	2	1	...	.....	6179	9944	2	2.13	54.1
Wakayama	N. 34 14	E.135 09	9.01 p m.	48	15	30.16	766 0	30.18	766.6	36.9	2.7	71.0	5	3	2	.....	.....	.....	2	5	14	1950	3138	5	1.02	25.9
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.72	754.9	29.85	758.2	81.0	27.2	69.0	6	4	1	.....	.....	3	9	8	...	.....	.....	7	6.70	170.2
MEXICAN.																										
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.35	618.5	30.10	764.5	45.9	7.7	79	2	19	1	2	.....	1	.....	2	4	.....	....	6	0.63	16.0
Muzatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29 74	755.4	29.95	760.7	65.2	18.4	83	3	7	.....	.....	.....	2	9	10	.....	.....	.....	4	3.50	88.9
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.08	586.2	30.19	766 8	45.1	7.3	76	.....	2	1	.....	2	.....	.....	.....	26	.....	.....	4	0.48	12.2
Pabellon	N. 22 04	W.102 04	5.12 a.m.	6312	1924	23.93	607.8	30.00	762.0	44.2	6.8	82	8	.....	4	.....	1	.....	.....	2	16	.....	.....	5	1.37	34.8
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.45	595 6	30.31	769.9	43.8	6.6	61	4	6	1	.....	.....	.....	2	6	12	.....	.....	4	0.32	8.1
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.95	760.7	29.97	761.2	34.7	1.5	.....	1	2	1	1	10	3	5	4	4	.....	.....	.....	1.19	30.2
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.91	759.7	29.98	761.6	31.6	— 0.2	.....	.....	.....	.....	3	9	3	7	8	1	.....	.....	.....	2.00	50.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.95	760.6	29.97	761.1	33.3	0.7	.....	.....	2	1	3	8	2	10	5	.....	.....	.....	.....	2.79	70.9
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.95	760.6	29.97	761 1	33.4	0.8	.....	1	2	.....	3	7	1	8	7	2	.....	.....	.....	1.30	33.1
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.93	760.3	30.00	762.0	34.5	1.4	.....	5	1	2	3	7	.....	11	2	.....	.....	.....	5	1.99	50.5
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.89	759.2	77.9	25.5	87.5	16	10	3	1	.....	.....	1	.....	.....	.....	.....	7	20.11	510.8
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.83	757.7	29.93	760.3	34.2	1.2	83.1	2	1	.....	1	17	5	.....	.....	5	.....	.....	4	6.20	157.4
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.84	758.0	29.93	760.3	31.6	— 0.2	75.2	3	.....	1	2	11	2	7	.....	5	.....	.....	7	1.70	43.2
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.89	759.1	30.08	764.0	22.6	— 5.2	88.7	3	3	.....	3	2	2	11	6	1	.....	.....	8	1.10	27.8
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.72	754 9	29.81	757.1	24.1	— 4.4	.....	1	3	5	5	1	2	3	7	4	.....	.....	8	2.24	57.0
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.00	762.1	30.06	763 5	61.7	16.5	72.7	.....	2	1	11	4	9	.....	1	3	.....	.....	6	5.15	130.8
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.67	753.6	30.03	761 9	49.6	9.8	81.0	9	5	1	2	5	1	1	7	.....	.....	.....	8	7.44	189.1
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.02	762.6	30.08	763.9	58.3	14.6	75.5	7	4	7	3	2	.....	1	5	2	.....	.....	5	4.58	116.3
Saint Vincent.*a*	N. 16 37	W. 25 02	10.20 a.m.	33	10	30.04	763 0	30.01	762.3	72.7	22.6	68.2	1	.....	.....	.....	1	.....	4	21	3	.....	.....	5	0.49	12.4
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.06	712.7	29.80	757.0	82.8	28.2	56.8	2	2	11	7	8	1	.....	.....	.....	.....	.....	8	0.12	3.0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.14	638.5	30.02	762.4	31.3	— 0.4	89.3	.....	4	8	5	3	6	5	.....	.....	.....	.....	8	16.97	431.1
RUSSIAN																										
Akmollnski.*b*	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	29.00	736.7	30.24	768.2	— 4.2	—20.1	85.5	.....	.....	6	11	3	4	2	2	1	.....	.....	6	0.08	2.1
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.87	758.8	29.95	760.6	2.8	—16.2	83.2	.....	6	6	2	8	2	5	2	.....	.....	.....	7	0.82	20.7
Astrakhan	N.46 21	E. 48 02	3.12 p.m.	69	21	30.35	771.0	30.28	769.0	20.7	— 6.3	79.2	2	6	3	3	2	2	5	6	2	.....	.....	6	0.04	1.1
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.28	769.0	30.22	767 5	37.4	3.0	84.7	17	3	.....	3	5	.....	.....	.....	3	.....	.....	7	1.40	35.5
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.79	756.7	30.38	771.6	— 2.4	—19.1	74.2	2	.....	1	16	2	.....	.....	1	9	.....	.....	6	1.12	28.5
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.84	758.0	30.14	765.5	25.3	— 3.7	94.0	1	5	8	7	3	3	.....	1	1	.....	.....	9	1.01	25.6
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.95	735.2	30.05	763 3	— 3.6	—19.8	80.2	1	1	11	8	5	2	.....	1	2	.....	.....	8	0.38	9.7
Elissawetgrad	N. 48 31	E. 32 17	2.09 p.m.	418?	127?	29.87	758 6	30.36	771.2	25.5	— 3.6	72.9	6	4	2	5	2	2	4	2	2	.....	.....	6	0.03	0.8
Kasalinsk.*b*	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.01	762.2	30.19	766 7	9.9	—12.3	79.5	1	1	3	2	6	2	5	7	2	.....	.....	6	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	70	29.79	756.7	30.12	765.0	5.7	—14.6	83.0	2	4	6	8	5	2	.....	.....	4	.....	.....	9	0.21	5.3
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.90	759 4	30.00	762 0	9.0	—12.8	84.3	2	9	7	1	.....	1	1	2	8	.....	.....	8	0.66	16.7
Kertch.*a*	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.25	768.3	30.27	768.9	28.2	— 2.1	.....	8	3	.....	.....	.....	.....	7	8	4	.....	.....	7	0	0
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.60	751.7	30.30	769 5	23.7	— 4.6	80.0	5	3	7	4	3	4	1	4	.....	.....	.....	7	0.02	0.5
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.67	753.5	30.23	767.9	13.5	—10.3	91.9	3	0	8	7	1	.....	1	3	2	.....	.....	8	0.32	8.2
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.70	754.4	30.35	771.0	19.9	— 6.7	75.2	2	7	7	5	2	1	3	3	.....	.....	.....	7	0.09	2.4
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	30.10	764.4	30.15	765 8	30.4	— 0.9	85.4	.....	1	6	5	4	7	6	.....	2	.....	.....	7	0.56	14.3
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	30.11	764.8	30.36	771.2	18.1	— 7.7	73.7	3	4	6	7	.....	.....	7	4	.....	.....	.....	6	0.15	3.8
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.65	753 0	30.21	767.2	15.8	— 9.0	83.3	7	7	5	4	4	.....	.....	1	3	.....	.....	6	0.24	6.2
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.97	710.4	30.67	779.0	—18.9	—28.3	73.1	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	2	0.11	2.9
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	30.24	768.2	30.32	770.0	25.2	— 3.2	78.0	7	.....	1	3	4	.....	3	8	5	.....	.....	4	0.01	0.3
Nikolaievsk.*a*	N. 53 08	E.140 45	9.23 p.m.	59	18	29.96	761.0	30.07	763 7	—20.6	—29.2	72.2	.....	3	10	.....	.....	.....	.....	.....	13	.....	.....	1	.....	.....
Nikolsk.*a*	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.58	751.3	30.11	764.8	5.2	—14.9	77.8	4	6	2	6	3	5	.....	2	2	.....	.....	8	0.97	24.7
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.94	760.4	30.30	769.7	24.3	— 4.3	56.8	.....	1	4	4	2	2	10	6	.....	.....	.....	8	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.18 p m.	180?	55?	29.78	756.5	30.04	762.9	13.8	—10.1	83.1	1	9	4	6	.....	2	3	1	5	.....	.....	6	0.99	25.1
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.74	755.5	30.29	769.4	26.2	— 3.2	78.5	1	2	6	5	5	3	4	1	4	.....	.....	7	0.20	5.0
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.11	764 7	30.13	765.3	44.8	7.1	84.6	.....	3	.....	.....	5	6	.....	12	5	.....	.....	7	7.01	178.0
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	30.04	763.0	30.10	764.6	21.0	— 6.1	86.7	.....	4	7	4	4	7	2	3	.....	.....	.....	9	1.13	28.6
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27 68	703.1	30.28	769 0	28.9	— 1.7	77.9	.....	1	1	1	.....	.....	.....	.....	27	.....	.....	6	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.67	753 7	30.43	773.0	— 0.9	—18.3	84.5	1	.....	.....	.....	3	4	.....	8	1	14	.....	4	0.16	4.0
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.97	761.3	30.19	766 9	35.4	1.9	66.6	3	1	1	6	2	.....	1	14	3	.....	.....	6	0.30	7.5
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.65	753.2	30.27	768.8	21.6	— 5.8	81.1	.....	1	1	4	5	5	9	4	2	1	.....	8	0.18	4.5
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.75	730.3	30.23	767.9	33.3	0.7	67.3	6	3	1	1	3	6	3	2	6	.....	.....	7	0.82	20.9
Viatka.*d*	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.27	743.4	30.00	762.1	— 0.6	—18.1	84.6	1	3	7	6	1	2	1	1	5	.....	.....	7	0.72	18.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1885.																		Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
Russian—Con.	° ′	° ′																								
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.76	755.8	30.22	767.7	28.4	— 2.0	80.8	.....	1	3	4	5	8	2	.....	8	.....	.....	6	0.48	12.1
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	2627	801	30.07	763.7	30.43	773.0	— 8.7	—22.6	76.7	.....	2	3	.....	3	3	5	.....	15	.....	.....	5	0.56	14.2
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.52	749.8	30.07	763.8	15.4	— 9.2	75	1	5	12	5	4	1	1	1	1	.....	.....	7	0.27	6.9
Spanish.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.83	757.7	29.99	761.8	46.2	7.9	75	12	6	7	1	1	.....	2	2	.....	.....	.....	5	0.65	16.6
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.92	760.0	29.98	761.5	50.0	10.0	70	.....	3	2	1	4	19	.....	.....	2	2177	3986	5	4.63	117.6
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.00	685.8	30.11	764.7	32.5	0.3	90	5	4	3	10	3	.....	3	3	.....	3562	5733	8	1.75	44.5
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.76	705 1	30.04	763.1	40.5	4.7	81	.....	1	1	7	2	4	3	13	.....	5694	9164	6	1.73	44.0
Murcia. *k*	N. 37 59	W. 1 10	11.55 a.m.	141	43	29.85	758.3	29.98	761.4	40.8	4.9	68	.....	5	3	7	2	.....	.....	3	.....	.....	.....	5	0.32	8.2
Oviedo	N. 43 23	W. 5 49	11.37 a.m.	801	244	29.17	740.9	29.94	760.5	40.1	4.5	83	1	.....	...	...	3	25	2	.....	.....	4228	6804	8	2.25	57.2
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.01	736.9	29.95	760.6	47.3	8.5	79	2	.....	1	4	5	7	.....	9	3	6559	10555	8	9.59	243.5
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	30.05	763.3	30.12	765.0	69.3	20.7	87.8	2	1	.....	.....	3	8	15	2	.....	.....	.....	3	1.83	46.4
Manilla	N. 14 35	E.120 57	8.04 p.m.	52	16	30.02	702.4	30.00	762.1	76.5	24.7	73.7	1	.....	1	.....	.....	11	13	5	.....	.....	.....	2	0.08	2.0
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.96	761.0	30.04	763.0	54.6	12.6	74.9	4	2	6	1	2	1	7	.....	8	.....	.....	6	2.67	67.8
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	30.04	762.9	30.07	763.7	73.8	23.2	86.0	1	.....	.....	.....	.....	12	6	4	8	.....	.....	7	2.41	61.3
Swedish.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.92	760.0	30.01	762.3	8.6	—13.0	98	6	.....	4	4	.....	1	2	5	9	.....	.....	6	0.62	15.8
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.95	760.7	30.05	763.2	15.4	— 9.2	93	3	7	3	5	.....	1	1	5	6	.....	.....	6	0.75	19.0
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.94	760.5	30.04	762.9	17.8	— 7.9	94	2	.....	1	1	3	1	.....	2	21	.....	.....	6	1.29	32.8
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.84	758.0	30.06	763.4	25.3	— 3.7	91	2	1	6	7	2	.....	1	2	10	.....	.....	9	1.35	34.2
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.96	761.0	30.05	763.3	32.4	0.2	87	1	2	11	6	4	3	4	.....	.....	.....	.....	8	1.09	27.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.92	760.0	30.05	763.2	25.0	— 3.9	96.1	6	1	1	16	3	2	1	1	.....	.....	.....	8	0.98	24.8
Swiss.																										
Geneva	N. 46 12	E. 6 08	0.25 p m.	1339	408	28.58	725.9	30.08	763.9	32.4	0.2	82.2	6	3	1	4	3	1	3	10	.....	.....	.....	5	0.27	6.8
Turkish.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.13	765.3	42.1	5.6	71.0	11	2	.....	.....	.....	4	2	12	.....	.....	.....	7	3.18	80.9
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	29.98	761.5	51.8	11.0	.....	2	5	.....	1	1	6	1	15	.....	.....	.....	7	7.05	179.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.94	760.4	59.2	15.1	65.8	5	2	3	14	.....	1	.....	5	1	.....	.....	8	10.37	263.4
United States.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.92	760.0	29.99	761.7	17.6	— 8.0	76.4	2	10	8	5	3	.....	.....	2	1	9267	14914	6	3.86	98.0
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.97	761.2	30.02	762.5	21.4	— 5.9	75.1	2	3	14	6	2	1	1	2	.....	7227	11031	5	3.02	76.7
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.31	592.1	29.94	760 5	1.0	—17.2	94.5	.....	12	12	4	3	.....	.....	.....	.....	36515	58704	3	5.49	139.4
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.92	760.0	30.06	763.5	23.8	— 4.6	71.4	2	4	13	5	3	1	1	2	.....	10709	17234	5	5.33	135.4
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.06	763.5	30.08	764.0	30.5	— 0.8	83.1	7	9	3	5	2	1	.....	2	2	10007	17070	5	5.30	134.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.06	763.5	30.10	764.5	26.9	— 2.8	80.6	5	4	7	7	3	.....	.....	2	3	6650	10702	5	5.44	138.2
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.98	761.5	30.09	764.3	24.3	— 4.3	79.9	10	5	5	5	1	1	.....	3	1	6544	10531	4	4.05	102.9
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.00	762.0	30.09	764 3	19.2	— 7.1	71.9	4	6	1	9	2	1	1	4	3	4832	7776	6	3.09	78.5
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.92	760.0	30.09	764.3	27.7	— 2.4	83.1	2	2	12	7	1	1	2	4	.....	10380	10705	5	3.50	88.9
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	30.00	762.0	30.12	765.0	27.9	— 2.3	72.3	4	9	3	4	3	2	.....	5	1	8555	13768	6	2.92	74.2
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.09	764.3	30.11	764.8	29.8	— 1.2	76.8	2	7	7	9	2	.....	1	3	.....	14932	24030	6	4.58	116.3
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.10	764.5	30.10	764.5	30.9	— 0.6	84.2	4	11	5	2	4	1	1	3	.....	6413	10320	5	4.27	108.5
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.09	764.3	30.10	764.5	31.7	— 0.2	84.6	9	6	6	3	5	.....	2	.....	.....	12191	19619	5	4.34	110.2
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.10	764.5	30.12	765.0	34.9	1.6	78.1	6	6	2	3	6	1	2	5	.....	12455	20044	5	4.98	126.5
Del. Breakwater	N. 38 48	W. 75 10	6.59 a.m.	20	6	30.12	765.0	30.13	765.3	34.1	1.2	80.7	1	10	1	7	5	1	.....	6	.....	13476	21687	6	3.20	81.3
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.11	764.8	30.15	765 8	31.5	— 0.3	67.2	7	6	5	4	.....	3	1	4	1	5090	8191	5	3.07	78.0
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.04	763.0	30.14	765 5	29.9	— 1.2	79.3	2	15	.....	1	7	.....	.....	5	1	5555	8940	6	4.46	113.3
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.14	765.5	30.13	765.3	55.0	12.8	81 3	6	8	2	2	8	1	.....	2	2	9465	15232	5	6.20	157.5
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.15	765.8	30.15	765 8	40.1	4.5	77.2	4	6	2	8	6	.....	.....	3	2	11579	18631	5	3.36	85.3
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.45	748 0	30.15	765.8	32.1	0.1	80.5	.....	4	10	6	4	1	... ...	2	4	3415	5496	6	9.77	248.2
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.15	765.8	30.16	766.1	40.2	4.6	80.0	6	3	3	9	4	1	1	4	.....	6976	11227	6	4.03	102.4
S Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.18	766.6	30.17	766.3	43.5	6.4	83.8	3	8	2	9	1	1	.....	5	2	12508	20129	7	5.45	138.4
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.16	766.1	30.15	765.8	47.0	8.3	83.2	7	3	2	9	.....	2	.....	6	2	10600	17059	7	7.98	202.7
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.18	766.6	30.16	766.1	43.7	6.5	82.8	8	3	2	7	3	1	1	6	.....	12613	20298	7	6.34	161.0
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.16	766.1	30.17	766.3	43.8	6.6	76.2	10	3	3	9	1	3	.....	5	.....	8561	13777	7	3.64	92.5
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.14	765.5	30.18	766.6	45.4	7.4	74.4	6	2	5	7	1	...	2	7	1	5961	9393	6	5.18	131.6
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.34	745.2	30.20	767.1	36.5	2.5	75.3	7	1	3	7	3	1	2	4	3	4823	7762	6	8.90	226.1
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.14	765.5	30.17	766.3	46.8	8.2	81.2	6	2	5	6	.....	.....	.....	11	1	6385	10275	7	6.88	174.8
Augusta. *d*	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.05	763.3	30.21	767.3	39.9	4.4	81.6	3	1	6	2	2	.....	.....	7	6	3905	6284	7	7.55	191.8
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.13	765.3	30.19	766 8	46.9	8.3	77.7	8	5	3	3	5	1	.....	5	1	6603	10626	6	6.45	163.8
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.15	765.8	30.16	766.1	52.2	11.2	85.3	5	9	1	3	3	.....	.....	6	4	6336	10197	7	7.18	182.4
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.16	766.1	30.14	765.5	53.2	11.8	82.6	8	4	1	.....	4	3	3	7	1	7529	12116	4	4.97	126.2
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.10	764.5	30.07	763.8	69.8	21.0	88.0	4	2	.....	1	2	6	4	12	.....	8041	13906	5	4.09	103.9
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.17	766.3	30.20	767.1	58.4	14.7	87.2	7	4	3	4	2	2	1	7	1	5449	8769	7	3.00	76.2
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	29.02	737.1	30.22	767.6	34.9	1.6	73.8	.....	8	6	4	1	1	10	1	.....	8847	14238	4	8.44	214.4
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.18	766.6	30.17	766.3	40.0	7.8	80.6	10	1-	1	3	.....	2	2	11	1	6782	10914	6	8.12	206.2
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.18	766.6	30.18	766.6	42.7	5.9	87.7	12	1	2	.....	2	5	5	1	3	5910	9511	5	11.95	303.5
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.99	761.7	30.20	767.1	40.6	4.9	84.9	10	4	3	.....	2	.....	6	4	2	5341	8595	7	9.72	246.9
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	244	74	29.98	761.5	30.20	767.1	38.9	3.8	77.8	2	6	.....	1	3	4	5	8	2	4819	7755	6	7.69	195.3
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.12	765.0	30.14	765.5	48.4	9.1	77.4	5	2	.....	3	2	3	5	10	1	6644	10692	6	9.70	246.4
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.97	761.2	30.19	766.8	36.7	2.6	82.5	4	4	2	1	6	2	5	5	2	5247	8444	7	12.11	307.6
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	451	137	29.71	754.6	30.21	767.3	26.8	— 2.9	86.3	3	5	5	1	2	....	7	6	2	4707	7575	4	1.99	50.5
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.90	759.4	30.19	766.8	32.8	0.4	83.7	7	3	3	.....	2	1	2	5	8	3431	5522	4	4.41	112.0
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.14	765 5	30.14	765.5	47.5	8.6	86.4	6	2	4	1	5	1	4	8	.....	10035	16149	6	6.97	177.0
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.15	765.8	30.14	765.5	44.1	6.7	90.6	10	3	2	.....	2	.....	6	3	5	11266	18130	5	6.40	162.6
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.65	753.1	30.20	767.1	36.7	2.6	81.7	4	4	3	1	4	1	4	10	.....	8085	13011	6	7.77	197.4
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	30.10	764.5	30.11	764.8	46.8	8.2	90.8	8	9	2	.....	4	.....	2	....	6	5318	8558	5	3.87	98.3
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.99	761 7	30.15	765 8	44.7	7 1	82.4	7	10	2	1	1	3	2	2	3	3897	6272	5	2.36	59.9
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.39	746.5	30.22	767.6	33.9	1.1	79.8	2	7	3	3	6	2	.....	8	.....	5584	8986	6	8.49	215.6
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.17	740.9	30.22	767.6	30.3	— 0.9	80.1	10	1	5	2	4	.....	.....	9	.....	5517	8879	6	7.64	194.1
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.89	759.2	30.22	767.6	31.8	— 0.1	79.1	4	6	3	2	2	7	1	6	.....	5401	8692	5	6.61	167.9
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.63	752 6	30.21	767.3	28.3	— 2.1	81.2	3	6	5	2	3	5	6	1	.....	6002	9659	7	6.29	159.8
Louisville	N. 38 15	W 85 45	6.17 a.m.	551	168	29.63	752.6	30.22	767.6	28.1	— 2.2	78.3	6	2	6	3	7	1	2	.....	4	6041	9722	6	6.34	161.0
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.19	741 4	30.18	766.6	17.2	— 8.2	83.0	4	6	6	5	6	1	2	1	.....	6502	10464	6	3.26	82.8
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.33	745.0	30.17	766.3	19.0	— 7.2	89.3	.....	5	7	5	3	5	1	3	2	3994	6428	5	3.31	84.1
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	612	187	29.50	749.3	30.19	766.8	22.6	— 5.2	75.0	3	3	7	5	1	5	2	5	.....	4287	6899	5	5.80	147.3
Columbus	N. 39 58	W. 83 00	6.23 a.m.	805	245	29.27	743.4	30.17	766 3	19.7	— 6.8	83.9	.....	4	11	3	7	4	1	1	.....	7298	11745	6	3.75	95.2
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.26	743.2	30.11	764.8	25.1	— 3.8	83.0	2	7	5	8	2	2	2	1	2	5809	9348	6	4.03	102.4
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.33	745.0	30.03	762.7	19.1	— 7.2	81.4	.....	4	9	8	5	3	.....	2	....	11492	18494	8	2.12	53.8
Buffalo	N. 42 53	W. 78 53	6.44 a m.	690	210	29.27	743.4	30.05	763 3	19.1	— 7.2	89.5	.....	1	8	11	4	3	2	2	.....	12709	20549	8	3.10	78.7
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.64	752 8	30.02	762.5	19.0	— 7.2	81.9	.....	6	4	6	11	2	.....	2	.....	12045	19384	9	2.02	51.3
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.32	744.7	30.08	764.0	21.3	— 5.9	74.7	.....	5	6	11	8	.....	.....	1	.....	9945	16005	8	3.60	91.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for January, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.																											
Low'r lake reg.—Con	° ′	° ′																									
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.42	747 3	30.13	765.3	18.9	— 7.3	75.0	1	4	6	13	3	1	1	1	1	10376	16698	5	3.29	83.6
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.34	745.2	30.11	764.8	17.9	— 7.8	86.5	.....	4	7	7	7	5	.....	1	.....	9406	15137	5	2.63	66.8
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.39	746.5	30.12	765 0	18.5	— 7.5	78.6	.....	3	6	15	4	1	.....	2	.....	7600	12231	6	3.12	79.2
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.36	745.7	30.11	764.8	19.6	— 6.9	68.2	3	2	7	6	12	.....	.....	1	.....	9095	14637	5	1.89	48.0
Upper lake region.																											
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.30	744 2	30.01	762.2	9.0	—12.8	78.8	.....	3	16	6	3	1	1	1	.....	7606	12240	6	2.09	53.1
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.34	745.2	30.06	763 5	1.7	—16.8	75.4	2	8	10	4	7	.....	.....	.....	.....	7160	11523	6	1.34	34.0
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.36	745.7	30.06	763.5	19.8	— 6.8	78.6	2	6	8	5	4	.....	4	2	.....	11002	17706	9	3.20	81.3
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.33	745.0	30.04	763.0	9.3	—12.6	77.7	4	6	11	3	2	.....	2	1	2	8002	12878	7	4.39	111.5
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.30	744 2	30.08	764.0	4.1	—15.5	.....	.....	9	11	6	1	1	.....	1	2	*6224	*10016	.....	2.77	70.4
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	633	193	29.36	745 7	30.08	764.0	13.0	—10.0	82.4	.....	4	7	4	12	1	1	2	.....	8305	13365	5	2.87	72.9
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.40	746.7	30.14	765.5	14.6	— 9.7	78.3	2	2	12	9	4	.....	1	1	.....	7316	11774	4	3.18	80.8
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.32	744.7	30.12	765.0	6.5	—14.2	83.3	3	10	9	6	2	.....	.....	1	.....	10436	16795	4	1.10	27.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.33	745.0	30.13	765.3	—6.6	—21.4	76.6	1	6	6	14	1	.....	.....	1	2	4578	7368	2	0.61	15.5
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.22	742 2	30.16	766.1	—0.9	—18.3	78.8	2	4	6	4	6	2	.....	.....	7	4424	7120	4	0.30	7.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.33	745.0	30.15	765.8	2.7	—16.3	66.0	6	4	3	1	17	.....	.....	.....	.....	6209	9992	4	0.81	20.6
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.49	749 0	30.19	766.8	11.7	—11.3	76.2	2	8	7	8	2	1	.....	3	.....	6738	10844	4	2.10	53.3
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.24	742.7	30.20	767.1	7.6	—13.6	71.5	7	2	3	7	1	.....	1	2	8	4102	6601	5	1.00	25.4
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.43	747.5	30.18	766.6	6.6	—14.1	53.1	1	9	4	4	7	1	.....	.....	5	3730	6003	3	1.80	45.7
Keokuk.*a*	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.52	749.8	30.21	767.3	11.3	—11.5	80.2	1	9	4	5	5	1	2	2	1	6501	10462	5	2.44	62.0
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.85	758.2	30.23	767.8	25.9	— 3.4	80.5	6	6	2	3	4	1	3	3	3	6321	10172	5	3.49	88.6
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.52	749.8	30.22	767.6	16.3	— 8.7	77.1	6	7	4	3	5	2	.....	2	2	6337	10198	3	2.81	71.4
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.60	751.8	30.23	767 8	21.5	— 5.8	78.0	4	4	7	3	5	4	2	2	.....	8505	13687	4	3.26	82.8
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.31	744.5	30.23	767.8	13.3	—10.4	94.3	8	4	.....	2	9	2	.....	3	3	4810	7741	4	1.47	37.3
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.98	736.1	30.22	767 6	7.4	—13.7	76 4	9	2	1	1	11	2	.....	.....	5	6371	10253	3	0.41	10.4
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.51	724.1	30.25	768.3	—0.8	—18 2	82.5	3	6	.....	2	.....	.....	.....	2	18	3298	5308	4	0.14	3.6
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.69	728.7	30.23	767.8	0.3	—17.6	71.9	6	8	1	3	3	5	.....	.....	5	5565	8956	3	0.15	3.8
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.81	731.8	30.23	767.8	5.0	—15.0	75.9	5	6	6	1	1	1	2	3	6	4717	7591	4	0.53	13.5
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.07	738.4	30.18	766.6	—5.4	—20.8	76.0	3	9	.....	6	6	.....	.....	.....	7	6152	9900	2	0.02	0.5
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.19	741.4	30.18	766.6	—10.6	—27.0	93.2	.....	10	8	1	10	1	.....	1	.....	6871	11058	2	0.32	8.1
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.22	716.8	30.22	767.6	—3.1	—19.5	91.6	4	9	3	1	2	.....	1	.....	11	3690	5938	4	0 31	7.9
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.99	710 9	30.23	767 8	—5.2	—20.7	75.0	4	5	9	5	2	1	1	3	5599	9011	4	0.64	16.3
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.39	721 1	30.17	766.3	—7.5	—21.9	72.1	.....	12	5	6	3	.....	.....	2	3	10450	16817	3	0.17	4.3
Northern slope.																											
Fort Assinaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.15	689 6	30.21	767.3	8.9	—12.8	67.1	.....	3	.....	13	.....	...	3	5	7	8782	14133	6	0.83	21.1
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.21	691.1	30.19	766.8	8.3	—13.2	77.3	.....	1	.....	11	.....	.....	.....	4	15	5138	8269	6	0.94	23.9
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.83	681.5	30.21	767.3	10.1	—12.2	79.3	2	3	8	3	.....	10	3	2	.....	6804	10364	6	0.08	2.0
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.47	646.9	30 24	768.1	12.7	—10.7	86.7	2	9	8	3	... ..	.....	2	7	.....	12048	19389	7	1.18	30.0
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.30	668.0	30.17	766.3	11.5	—11.4	83.5	.....	3	8	9	.....	1	1	2	7	9264	14909	6	1.87	47.5
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.80	655.3	30.18	766.6	18.1	— 7.7	71.2	7	2	7	11	.....	.....	.....	.....	4	4444	7152	5	1.31	33.3
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27 88	708.1	30.24	768.1	—11.9	—24.4	95.2	7	1	11	.....	.....	.....	1	3	8	3095	4981	5	0.81	20.6
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.27	641.8	30.22	767.6	15.0	— 9.4	77.4	.....	.....	1	16	4	4	.....	5	1	2628	4239	4	1.60	40.6
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23 89	606.8	30.15	765.8	19.6	— 6.9	69.1	3	10	11	2	1	2	1	1	.....	10938	17003	4	0.16	4.1
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.11	688.6	30.21	767.3	7.4	—13.7	74.7	1	6	12	1	2	2	1	.....	6	4454	7168	4	0.12	3.0
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.49	444.2	30 18	766.6	—0.3	—17.9	81.3	8	9	10	1	.....	.....	.....	2	1	13816	22234	3	0.61	15.5
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.67	626.6	30.18	766.6	23.5	— 4.7	60.1	3	3	3	8	10	1	.....	3	.....	5983	9628	4	0.41	10.4
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.02	660 9	30.13	765.3	7.0	—13.9	92.2	2	5	14	6	.....	.....	1	2	1	3723	5992	3	0.22	5.6
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27 46	697.5	30.18	766.0	12.8	—10.7	86.9	2	10	7	2	2	8	.....	.....	.....	8484	13653	3	0.52	13.2
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.30	693.4	30.21	767.3	21.7	— 5.7	84.6	1	13	1	4	5	1	.....	2	4	8141	13101	3	0.45	11.4
Southern slope.																											
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28 95	735.3	30.25	768.3	22.8	— 5.1	93.7	15	1	1	3	5	1	.....	5	.....	8603	13845	4	0.50	12.7
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.23	717.0	30.22	767.6	29.0	— 1.7	93.2	3	1	6	6	1	.....	3	7	4	6246	10052	5	1.30	33.0
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	27.08	687.8	30.19	766.8	31.5	— 0.3	80.0	2	.....	.....	7	5	3	.....	2	12	4170	6711	4	0.49	12.4
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.20	640.1	30.14	765.5	33.9	1.1	72.4	3	1	1	11	1	5	.....	5	4	5071	9126	4	0.69	17.5
Southern plateau.																											
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.23	590.0	30.23	767.8	17.2	— 8.2	68.8	6	1	1	1	.....	2	4	15	1	6059	9751	3	0.26	6.6
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.36	694 9	30.10	766.1	28.5	— 1.9	67.6	.....	1	4	4	18	4	.....	.....	.....	.....	.....	4	0.03	0.8
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.09	637.3	30.18	766 6	23.5	— 4.7	73.8	.....	1	2	1	.....	2	13	7	5	2814	4529	3	0.52	13.2
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.26	641.6	30.13	765.3	33.1	0.6	68.1	5	1	.....	.....	1	8	8	8	.....	4723	7601	2	0.31	7.9
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.74	628.4	30.15	765.8	24.1	— 4.4	84.5	1	.....	1	2	3	1	3	.....	20	2605	4192	2	0.08	2.0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.31	668 3	30.16	766.1	32.9	0.5	68.1	1	4	12	.....	.....	.....	5	5	4	3297	5306	2	0.12	3.0
Middle plateau.																											
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.72	653.3	30.28	769.1	24.2	— 4.3	59.6	1	4	2	.....	1	10	2	1	10	2410	3878	5	1.48	37.6
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.73	653.5	30.27	768.8	27.2	— 2.7	72.0	1	.....	.....	14	1	.....	1	11	3	4711	7582	5	0.79	20.1
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.35	694.7	30.28	769.1	19.1	— 7.2	86.7	2	2	5	1	.....	8	1	1	11	1798	2894	5	1.50	38.1
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.39	746.5	30.22	767 6	20.4	— 6.4	79.9	.....	.....	.....	1	.....	.....	.....	5	25	689	1105	6	1.67	42.4
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.09	713 5	30.24	768.1	16.9	— 8.4	87.2	.....	6	5	7	1	8	1	2	3001	4926	8	2.53	64.3
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.39	721.1	30.20	767.1	22.0	— 5.6	86.2	2	1	1	11	.....	.....	.....	5	11	3003	4833	6	2.29	58.2
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.85	758 2	30.06	763.5	39.9	4.4	89.0	3	1	3	.....	5	4	11	1	3	10373	16693	4	6.68	169 7
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.08	764.0	30.12	765 0	37.9	3.3	90.8	.....	.....	.....	.....	9	.....	.....	.....	21	1650	2655	8	6.23	158.2
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.93	760.2	30.04	763.0	40.8	4.9	86.2	.....	.....	.....	3	4	5	5	13	1	.....	12440	20020	8	14.47	367.5
Portland	N. 45 32	W. 122 43	3.49 a.m.	67	20	30.00	763.5	30.14	765.5	34.3	1.3	87.3	3	.....	.....	4	.....	5	.....	6	.....	13	2218	3570	8	4.57	116.1
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.57	751 1	30.14	765 5	40.1	4.5	93.3	1	.....	1	1	1	1	3	4	19	1137	1830	6	2.99	75.9
Mid Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.41	747.0	30.09	764.3	47.0	8.3	84.1	11	.....	.....	.....	10	6	2	1	1	16287	26211	6	1.91	48.5
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.83	757.7	30.18	766.0	43.0	6.1	91.6	15	9	.....	.....	3	.....	1	.....	3	3673	5911	5	1.84	46.7
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.10	764.5	30.15	765.8	44.5	6.9	92.5	6	7	1	1	5	10	.....	1	.....	3738	6016	5	2.16	54.9
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.10	764.5	30.15	765.8	48.8	9.3	90.0	9	6	1	2	1	4	3	4	1	3622	5829	7	2.53	64.3
S. Pac. coast reg'n.																											
Los Angeles.*a*	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.74	755.4	30.10	764.5	47.1	8.4	70.1	3	... ..	.....	.....	.....	1	2	23	1	4224	6798	2	1.05	26.7
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	30.03	762 7	30.07	763.8	48.3	9.1	82.1	9	.....	2	.....	.....	.....	7	12	1	3289	5293	3	0.35	8.9
Alaska stations.																											
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.75	755.6	29.83	757 7	11.9	—11.2	86.3	6	.....	2	1	2	1	10	8	1	12745	20511	5	0.38	9.7
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.73	755.1	29.83	757.7	35.1	1.7	80.4	.....	3	.....	2	... ..	9	1	2	14	5482	8822	7	10.42	264.7
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.26	743 2	29.30	744.2	38.8	2.7	86.9	1	1	.....	1	9	14	4	.....	1	8407	13530	8	29.87	758.7
Sub-Series.																											
Behring Island	N. 55 12	E.165 55	11.04 p.m.	20	6	29.40	746.7	29.45	748.0	25.6	— 3.6	90.8	3	1	.....	3	4	.....	11	7	2	10832	17432	8	0.58	14.7
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	30.00	762 0	29.94	760.5	74.1	23.4	87.1	2	12	.....	.....	.....	.....	1	16	.....	.....	.....	6	1.96	49.8
Granada	N. 11 56	W. 85 51	6.17 a m.	230	70	29.32	744.7	.....	.....	73.9	23.3	82.2	1	.....	.....	.....	.....	.....	10	15	5	.....	.....	.....	0.06	1.5
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.08	764.0	30.00	762.0	76.5	24.7	82.0	.....	.....	.....	.....	.....	2	25	4	.....	.....	.....	8	7.27	184.7
Puerto Berrio	N. 6 22	W. 74 28	7.02 a.m.	542	165	.....	.....	.....	.....	79.0	26.1	86.0	2	.....	.....	.....	5	.....	.....	.....	16	.....	.....	3	1.26	32.0
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.6	23.7	77.3	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	2	0.04	1.0

OCEAN SQUARE DATA FOR JANUARY, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ′ ° ′															
N. 12.5 W. 22.5	29.96	761.0	75.7	24.3	3				1	1	9	16	1		4.1
12.5 27.5	29.98	761.5	76.1	24.5	1	1				1	8	19	1		4.0
12.5 32.5	30.00	762.0	76.5	24.7	2					1	12	16			4.3
12.5 37.5	30.01	762.2	77.0	25.0							10	19		2	4.4
12.5 42.5	30.03	762.7	77.4	25.2							13	17		1	4.3
12.5 47.5	30.05	763.3	77.6	25.3							22	9			4.4
12.5 52.5	30.05	763.3	77.8	25.4						2	26	3			4.4
17.5 22.5	30.01	762.2	71.9	22.2	5				1	1	8	14	2		3.9
17.5 27.5	30.03	762.7	72.8	22.7			1				15	13	2		3.7
17.5 32.5	30.05	763.3	73.5	23.1	8					1	16	5		1	4.3
17.5 37.5	30.07	763.8	74.5	23.6	6						17	7		1	4.6
17.5 42.5	30.09	764.3	75.0	23.9	2				2		16	10		1	4.4
17.5 47.5	30.10	764.5	75.5	24.2					1	1	20	7		2	4.4
17.5 52.5	30.10	764.5	76.2	24.6						1	24	5		1	4.4
17.5 57.5	30.06	763.5	77.6	25.3						1	29	1			4.0
22.5 22.5	30.05	763.3	68.6	20.3	6	3	2	1			7	8		4	4.3
22.5 27.5	30.09	764.3	69.7	20.9	7	3	1				11	6		3	4.8
22.5 32.5	30.11	764.8	70.7	21.5	7	4				4	8	5		3	4.6
22.5 37.5	30.13	765.3	71.9	22.2	2	4				5	11	6		3	4.5
22.5 42.5	30.14	765.5	72.6	22.6	3	1			1	3	12	8	1	2	4 3
22.5 47.5	30.16	766.1	72.5	22.5	1				1	2	15	8		4	4.2
22.5 52.5	30.15	765.8	73.6	23.1	3					3	15	7		3	4.0
22.5 57.5	30.16	766.1	74.0	23.3	1				1	6	17	6			4.1
22.5 62.5	30.15	765.8	74.0	23.3					2	7	17	4		1	4.0
22.5 67.5	30.15	765.8	74.7	23.7					2	10	15	2	2		3.6
22.5 72.5	30.11	764.8	74.5	23.6				1	2	14	13		1		3.9
27.5 22.5	30.08	764.0	65.5	18.6	4	6	3	1	1		5	7		4	4.7
27.5 27.5	30.13	765.3	66.4	19.1	5	6	3			1	8	4		4	4.8
27.5 32.5	30.17	766.3	67.5	19.7	5	5	1	1		7	3	6		3	4.8
27.5 37.5	30.18	766.6	68.3	20.2	3	4	3		1	11	4	2	1	2	4.9
27.5 42.5	30.18	766.6	69.3	20.7	5	5	1	1	2	5	6	4		2	4.5
27.5 47.5	30.21	767.3	70.1	21.2	9	2	2		2	2	7	3		4	4.2
27.5 52.5	30.22	767.6	70.3	21.3	8	2	1	1	3	2	8	3		3	3.0
27.5 57.5	30.22	767.6	70.3	21.3	6	2	1	3	2	3	9	4		1	3.9
27.5 62.5	30.22	767.6	70.5	21.4	4		2	2	7	8	6	2			4.0
27.5 67.5	30.21	767.3	71.1	21.7	3	1		4	6	6	8	3			4.4
27.5 72.5	30.17	766.3	70.9	21.6	2	1	1	3	6	7	8		1		4.3
27.5 77.5	30.14	765.5	71.7	22.1	1	1	2	2	5	7	9	4			4.2
32.5 12.5	30.03	762.7	60.2	15.7	5	3	2	5	4	3	2	7			3.6
32.5 17.5	30.07	763.8	61.9	16.6	7	2	9	1	5		2	5			3.0
32.5 22.5	30.09	764.3	62.5	16.9	4	6	5	3	2		4	7			4.3
32.5 27.5	30.10	764.5	63.2	17.3	5	7	5	2	1	4	5	2			4.8
32.5 32.5	30.17	766.3	63.9	17.7	4	5	8	1	2	8	1	2			5.1
32.5 37.5	30.17	766.3	61.5	16.4	6	5	4	5	2	7	1			1	5.4
32.5 42.5	30.18	766.6	65.3	18.5	6	5	5	1	3	8	1	1		1	5.1
32.5 47.5	30.20	767.1	65.7	18.7	4	7	4	1	5	3	3	2	1	1	4.7
32.5 52.5	30.21	767.3	65.8	18.8	3	5	5	3	4	2	3	3		3	4.9
32.5 57.5	30.22	767.6	65.1	18.4	5	3	7	6	3	1	4	1		1	5.0
32.5 62.5	30.20	767.1	64.6	18.1	4	2	7	9	2	2	1	4			4.7
32.5 67.5	30.20	767.1	65.5	18.6	2	4	4	9	3	1	3	4		1	5.3
32.5 72.5	30.18	766.6	63.8	17.7	4	3	3	10	2	3	4	2			5.3
32.5 77.5	30.16	766.1	54.2	12.3	3	2	5	7	1	2	2	9			5.0
37.5 12.5	30.00	762.0	55.2	12.9	7	6	4	8	4	1		1			4.6
37.5 17.5	30.00	762.0	58.0	14.4	7	7	4	7	1	2	1	2			4.6
37.5 22.5	30.04	763.0	58.7	14.8	3	12	6	4		2	1	3			4.3
37.5 27.5	30.08	764.0	59.2	15.1	6	9	6	2	2	1	3		2		3.6
37.5 32.5	30.09	764.3	59.4	15.2	3	9	7	4	4	1	3				5.3
37.5 37.5	30.08	764.0	59.5	15.3	2	7	5	4	5	3	2	1	1	1	5.4
37.5 42.5	30.11	764.8	59.4	15.2		8	6	6	4	1	4	1	1		5.5
37.5 47.5	30.13	765.3	59.0	15.0	3	8	5	7	2	2	2	2			5.0
37.5 52.5	30.12	765.0	58.4	14.7	3	7	7	7	1	2	1	2		1	5.6
37.5 57.5	30.13	765.3	57.0	13.9	3	5	8	9		2		3		1	6.3
37.5 62.5	30.11	764.8	55.6	13.1	5	8	6	7	3	1		1			5.8
37.5 67.5	30.11	764.8	53.5	11.9	4	7	4	6	4	2	1	2		1	5.9
37.5 72.5	30.11	764.8	46.2	7.9	6	7	3	6	4		1	4			5.5
42.5 12.5	29.92	760.0	52.5	11.4	3	6	3	12	3	1		3			5.0
42.5 17.5	29.90	759.4	54.8	12.7	3	6	5	9	2		2	3		1	5.7
42.5 22.5	29.94	760.5	55.2	12.9	1	8	8	7	4			2		1	5.8
42.5 27.5	29.93	760.2	54.5	12.5	1	7	14	6	1	1		1			5.8
42.5 32.5	29.97	761.2	53.5	11.9		9	12	5	2		1	2			5.6
42.5 37.5	29.97	761.2	52.1	11.2	2	7	11	6	2	1	1	1			6.1
42.5 42.5	29.96	761.0	50.2	10.1	2	9	7	8	3		1			1	6.0
42.5 47.5	29.96	761.0	47.2	8.4	2	9	6	8	3	1				2	6.5
42.5 52.5	29.98	761.5	43.9	6.6	3	13	7	3	4	1					5.9
42.5 57.5	29.99	761.7	41.0	5.0	4	9	9	5	3	1					6.0
42.5 62.5	30.01	762.2	36.5	2.5	5	8	8	3	5	1			1		5.5
42.5 67.5	30.04	763.0	31.1	— 0.5	6	10	3	4	4	2		1	1		4.6
47.5 12.5	29.81	757.2	51.3	10.7	2	4	2	11	7			4	1		6.6
47.5 17.5	29.79	756.7	51.7	10.9	1	6	6	7	5	1	1	3		1	6.0
47.5 22.5	29.76	755.9	51.7	10.9	2	3	11	8	3	3	1				6.2
47.5 27.5	29.74	755.4	49.0	9.4	1	7	10	7	2	2		1		1	6.4
47.5 32.5	29.75	755.6	47.2	8.4	2	8	11	4	5			1			6.3
47.5 37.5	29.74	755.4	43.5	6.4	1	9	11	5	4				1		6.8
47.5 42.5	29.68	753.9	37.4	3.0		13	9	5	4						6.6
47.5 47.5	29.70	754.4	31.3	— 0.4		13	8	6	2	1			1		6.3
52.5 12.5	29.72	754.9	46.4	8.0	1	2	5	7	6	4	3	3			5.9
52.5 17.5	29.66	753.4	47.4	8.6	3	2	9	7	4	4	2				6.7
52.5 22.5	29.62	752.3	45.6	7.6	2	3	8	8	6	3	1				6.1
52.5 27.5	29.57	751.1	43.5	6.4	2	6	7	5	5	2	1	2		1	6.1
52.5 32.5	29.58	751.3	40.2	4.6	2	7	9	2	4	1			1	5	6.2
52.5 37.5	29.60	751.8	37.4	3.0	1	7	7	1	6			1		8	6.3
52.5 42.5															
52.5 47.5															
57.5 12.5	29.65	753.1	43.4	6.3	2	1	4	7	6	6	3		1	1	5.6
57.5 17.5	29.57	751.1	42.7	5.9	3		5	7	3	9	2	1		1	6.2
57.5 22.5	29.52	749.8	40.8	4.9	1	2	6	7	3	6	2	1		3	6.3
57.5 27.5	29.49	749.0	37.9	3.3		5	5	6	2	5	2	2		4	6.6
57.5 32.5					1	4	4	3	1	2		2		14	
57.5 37.5															
57.5 42.5															
57.5 47.5															

RETARDED DATA.—JACOBSHAVN, GREENLAND (N. 69° 13′, W. 50° 55′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the Air. Fah.	Temperature of the Air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metres per sec.	Wind. Force. 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From.	Clouds. Direction. Lower. From.	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1884.																		
March 1	29.26	743.2	29.31	744.4	—29.2	—34.0		sw.			4		0					
2	29.11	739.5	29.16	740.7	—32.8	—36.0		calm			0		6					
3	29.52	749.8	29.57	751.0	—21.1	—29.5		calm			0		4					
4	29.55	750.5	29.60	751.7	—31.0	—35.0		calm			0		1					
5	29.18	741.2	29.23	742.4	—19.1	—28.4		calm			0		4					
6	28.54	725.0	28.59	726.2	29.8	— 1.2		e.			5		5					
7	29.46	748.3	29.51	749.5	— 6.9	—21.6		sw.			4		9					snowing.
8	29.48	748.7	29.52	749.9	—17.0	—27.2		s.			4		5					
9	29.78	756.5	29.83	757.7	—18.8	—28.2		s.			4		5					
10	29.82	757.4	29.87	758.6	—25.8	—32.1		calm			0		2					
11	29.47	748.6	29.52	749.8	—12.5	—24.7		calm			0		8					
12	29.47	748.5	29.52	749.7	21.9	— 5.6		se.			4		4					
13	29.55	750.6	29.60	751.8	14.5	— 9.7		calm			0		6					
14	29.78	756.3	29.82	757.5	—10.5	—23.6		calm			0		4					snowing.
15	29.89	759.1	29.93	760.3	—21.6	—29.8		calm			0		0					
16	29.81	757.2	29.86	758.4	—15.3	—26.3		calm			0		2					foggy.
17	29.56	750.7	29.60	751.9	—25.6	—32.0		calm			0		4					
18	29.41	747.1	29.46	748.3	—25.8	—32.1		calm			0		1					
19	29.49	749.1	29.54	750.3	—29.2	—34.0		calm			0		3					
20	29.58	751.3	29.63	752.5	7.2	—13.8		calm			0		8					
21	29.44	747.7	29.48	748.9	— 8.3	—22.4		s.			4		8					
22	29.70	754.4	29.75	755.6	—17.5	—27.5		calm			0		5					
23	29.44	747.8	29.49	749.0	—17.7	—27.6		calm			0		7					
24	29.40	746.8	29.45	748.0	— 3.8	—19.9		e.			4		1					
25	29.72	755.0	29.77	756.2	— 5.8	—21.0		calm			0		9					
26	29.85	758.2	29.90	759.4	—12.1	—24.5		calm			0		3					
27	29.37	746.1	29.42	747.3	27.7	— 2.4		se.			4		5					
28	29.94	760.5	29.99	761.7	5.0	—15.0		sw.			5		7					
29	30.61	777.4	30.65	778.6	— 6.2	—21.2		e.			4		0					
30	30.11	764.9	30.16	766.1	7.5	—13.6		calm			0		5					
31	30.35	771.0	30.40	772.2	16.9	— 8.4		calm			0		9					
Mean	29.60	751.9	29.65	753.1	— 9.0	—22.8							5					
April 1	29.93	760.3	29.98	761.5	35.4	1.9		calm			0		9					snowing.
2	30.04	762.9	30.08	764.1	31.3	— 0.4		calm			0		9					snowing.
3	30.19	766.9	30.24	768.1	7.9	—13.4		sw.			4		9					snowing.
4	30.34	770.7	30.39	771.9	— 8.5	—22.5		calm			0		8					foggy.
5	30.24	768.1	30.29	769.3	—10.8	—23.8		calm			0		8					
6	30.19	766.8	30.24	768.0	—10.1	—23.4		calm			0		7					
7	30.28	769.0	30.32	770.2	—10.1	—23.4		s.			4		9					
8	29.72	754.8	29.76	756.0	— 1.5	—18.6		calm			0		4					
9	29.64	752.9	29.69	754.1	2.8	—16.2		calm			0		1					
10	29.69	754.1	29.74	755.3	35.6	2.0		se.			5		6					
11	29.53	750.1	29.58	751.3	12.7	—10.7		calm			0		10					foggy.
12	29.44	747.7	29.48	748.9	5.7	—14.0		calm			0		3					
13	29.88	759.0	29.93	760.3	12.2	—11.0		calm			0		10					foggy.
14	29.91	759.8	29.96	761.0	40.5	4.7		se.			4		7					
15	30.02	762.5	30.07	763.7	38.5	3.6		sw.			5		6					
16	30.14	765.6	30.19	766.8	38.8	3.8		se.			4		5					
17	30.10	764.6	30.15	765.8	27.9	— 2.3		calm			0		8					snowing.
18	30.45	773.5	30.50	774.7	13.3	—10.4		sw.			5		8					
19	30.44	773.2	30.49	774.4	11.7	—11.3		calm			0		1					
20	30.12	765.1	30.17	766.3	12.2	—11.0		calm			0		2					
21	29.95	760.7	30.00	761.9	25.3	— 3.7		e.			4		3					
22	29.78	756.4	29.83	757.6	32.7	0.4		calm			0		9					snowing.
23	29.80	756.9	29.85	758.1	18.3	— 7.6		sw.			4		8					snowing.
24	29.85	758.3	29.90	759.5	0.3	—17.6		e.			5		0					
25	29.16	740.6	29.21	741.8	24.4	— 4.2		sse.			4		6					
26	29.65	753.1	29.70	754.3	18.7	— 7.4		e.			5		1					
27	29.74	755.4	29.79	756 6	10.2	—12.1		e.			5		2					
28	29.61	752.2	29.66	753.4	11.1	—11.6		e.			4		0					
29	29.94	760.4	29.98	761.6	13.3	—10.4		e.			4		3					
30	29.99	761.7	30.04	762.9	10.8	—11.8		s.			4		3					
Mean	29.93	760.1	29.97	761.3	15.1	— 9.4							5					
May 1	30.08	763.9	30.12	765.1	9.9	—12.3		nne.			4		3					
2	29.96	761.0	30.01	762.2	16.9	— 8.4		calm			0		0					
3	30.00	762.0	30.05	763.2	15.6	— 9.1		s.			4		6					
4	30.15	765.8	30.20	767.0	21.6	— 5.8		calm			0		3					
5	30.22	767.6	30.27	768.8	29.8	— 1.2		e.			5		2					
6	30.21	767.3	30.26	768.5	29.3	— 1.5		calm			0		7					foggy.
7	30.17	766.2	30.21	767.4	27.5	— 2.5		calm			0		9					snowing.
8	30.20	767.1	30.25	768.3	22.6	— 5.2		calm			0		1					
9	30.11	764.9	30.16	766.1	27.3	— 2.6		calm			0		7					
10	30.03	762.8	30.08	764.0	32.4	0.2		calm			0		6					
11	30.06	763.5	30.11	764.7	28.2	— 2.1		calm			0		9					snowing.
12	30.09	764.3	30.14	765.5	11.7	—11.3		n.			4		4					
13	30.05	763.2	30.10	764.4	13.8	—10.1		calm			0		5					
14	29.96	761.0	30.01	762.2	13.3	—10.4		calm			0		0					
15	29.91	759.8	29.96	761.0	23.4	— 4.8		calm			0		0					
16	29.87	758.8	29.92	760.0	28.0	— 2.2		calm			0		4					
17	30.02	762.4	30.06	763.6	27.7	— 2.4		sw.			4		6					
18	30.12	765.0	30.17	766.2	29.5	— 1.4		n.			4		6					
19	30.03	762.8	30.08	764.0	29.8	— 1.2		calm			0		1					
20	29.95	760.8	30.00	762.0	19.8	— 6.8		e.			4		0					
21	29.83	757.7	29.88	758.9	25.0	— 3.9		e.			4		2					
22	29.35	745.5	29.40	746.7	38.1	3.4		calm			0		7					
23	29.43	747.5	29.48	748.7	32.0	0.0		calm			0		7					
24	29.84	757.9	29.89	759.1	34.9	1.6		s			4		9					snowing.
25	30.05	763.2	30.10	764.4	27.0	— 2.8		calm			0		6					
26	29.89	759.3	29.94	760.5	30.9	— 0.6		calm			0		0					
27	29.77	756.2	29.82	757.4	38.3	3.5		n.			4		2					
28	29.89	759.1	29.93	760.3	37.0	2.8		calm			0		3					
29	30.40	772.1	30.45	773.3	33.8	1.0		s.			4		7					
30	30.25	768.3	30.30	769.5	34.7	1.5		calm			0		2					
31	30.17	766.2	30.21	767.4	33.4	0.8		e.			5		0					
Mean	30.00	762.0	30.05	763.2	26.6	— 3.0							4					

JACOBSHAVN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
									Miles perhour	Metres per sec.		Upper.	Lower.	Upper.	Lower.			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.			0–10	0–10	0–10	From.	From.	Inch.	Mill.	
1884.																		
June 1	29.58	751.4	29.63	752.6	41.4	5.2		ese.			5		4					
2	29.81	757.2	29.86	758.4	37.8	3.2		sw.			4		10					snowing.
3	29.93	760.1	29.97	761.3	35.4	1.9		calm			0		3					
4	29.73	755.1	29.78	756.3	37.8	3.2		calm			0		4					
5	29.54	750.4	29.59	751.6	49.3	9.6		ese.			7		2					
6	29.65	753.1	29.70	754.3	49.6	9.8		se.			5		2					
7	29.58	751.2	29.62	752.4	50.7	10.4		e.			5		1					
8	29.81	757.2	29.86	758.4	33.8	1.0		calm			0		3					
9	29.80	756.8	29.84	758.0	40.6	4.8		calm			0		0					
10	29.66	753.3	29.71	754.5	39.2	4.0		calm			0		0					
11	29.75	755.6	29.80	756.8	31.6	— 0.2		calm			0		8					snowing.
12	29.72	754.9	29.77	756.1	33.8	1.0		n.			4		6					
13	29.67	753.6	29.72	754.8	36.3	2.4		n.			4		2					
14	29.61	752.2	29.66	753.4	34.2	1.2		sw.			4		7					foggy.
15	28.93	734.9	28.98	736.1	50.4	10.2		se.			7		3					
16	29.02	737.0	29.06	738.2	34.0	1.1		sw.			4		7					snowing.
17	29.41	747.0	29.46	748.2	33.4	0.8		calm			0		3					
18	29.35	745.4	29.39	746.6	34.9	1.6		calm			0		2					
19	29.57	751.0	29.61	752.2	36.3	2.4		calm			0		4					
20	29.55	750.6	29.60	751.8	37.0	2.8		s.			4		7					
21	29.76	755.8	29.80	757.0	37.4	3.0		nw.			4		0					
22	29.79	756.7	29.84	757.9	35.2	1.8		nw.			4		1					
23	29.56	750.7	29.60	751.9	40.6	4.8		calm			0		2					
24	29.47	748.6	29.52	749.8	39.6	4.2		calm			0		0					
25	29.39	746.4	29.43	747.6	47.8	8.8		ne.			4		0					
26	29.28	743.7	29.33	744.9	42.1	5.6		calm			0		8					raining.
27	29.26	743.3	29.31	744.5	38.8	3.8		sw.			4		7					foggy.
28	29.46	748.3	29.51	749.5	39.9	4.4		calm			0		5					
29	29.28	743.8	29.33	745.0	37.6	3.1		calm			0		7					
30	29.37	746.1	29.42	747.3	38.8	3.8		calm			0		7					
Mean	29.54	750.4	29.59	751.6	39.2	4.0							4					
July 1	29.52	749.7	29.56	750.9	46.8	8.2		calm			0		7					
2	29.06	738.0	29.10	739.2	43.0	6.1		calm			0		0					
3	29.47	748.6	29.52	749.8	42.1	5.6		e.			4		2					
4	29.59	751.6	29.64	752.8	34.9	1.6		sw.			0		9					snowing.
5	29.86	758.4	29.91	759 6	38.8	3.8		e.			6		0					
6	29.98	761.4	30.02	762.6	40.3	4.6		calm			0		2					
7	29.98	761.4	30.02	762.6	39.6	4.2		s.			4		5					
8	30.13	765.4	30.18	766.6	38.1	3.4		n.			4		4					
9	30.23	767.8	30.28	769.0	40.8	4.9		calm			0		2					
10	30.42	772.7	30.47	773.9	48.9	9.4		calm			0		5					
11	30.32	770.2	30.37	771.4	43.0	6.1		calm			0		4					
12	30.25	768.3	30.30	769.5	42.4	5.8		n.			4		0					
13	30.01	762.2	30.06	763.4	50.4	10.2		ene.			6		0					
14	30.20	767.0	30.24	768.2	41.2	5.1		calm			0		4					foggy.
15	30.19	766.9	30.24	768.1	47.5	8.6		calm			0		2					
16	30.02	762.6	30.07	763.8	46.9	8.3		calm			0		1					
17	30.09	764.2	30.13	765.4	41.7	5.4		calm			0		4					
18	30.13	765.4	30.18	766.6	41.2	5.1		calm			0		8					foggy.
19	29.96	760.9	30.00	762.1	45.7	7.6		calm			0		2					
20	29.97	761.1	30.01	762.3	50.2	10.1		calm			0		2					
21	30.00	762.1	30.05	763.3	49.3	9.6		calm			0		7					
22	30.01	762.3	30.06	763.5	48.9	9.4		se.			4		8					
23	29.92	760.0	29.97	761.2	46.8	8.2		calm			0		0					
24	29.84	757.9	29.89	759.1	50.4	10.2		se.			6		1					
25	29.92	759.9	29.97	761.1	50.7	10.4		n.			4		2					
26	29.90	759.4	29.95	760.6	51.1	10.6		calm			0		0					
27	29.87	758.6	29.91	759.8	50.0	10.0		calm			0		0					
28	29.71	754.5	29.75	755.7	48.9	9.4		calm			0		6					
29	29.48	748.9	29.53	750.1	43.7	6.5		n.			4		0					
30	29.48	748.7	29.52	749.9	40.3	4.6		s.			4		5					foggy.
31	29.65	753.0	29.69	754.2	38.8	3.8		calm			0		8					
Mean	29.91	759.6	29.95	760.8	44.6	7.0							3					
August 1	29.77	756.1	29.82	757.3	42.1	5.6		calm			0		6					raining.
2	29.87	758.6	29.91	759.8	46.4	8.0		calm			0		4					
3	29.97	761.3	30.02	762.5	49.3	9.6		calm			0		2					
4	29.91	759.6	29.95	760.8	50.2	10.1		calm			0		4					
5	29.69	754.0	29.73	755.2	51.1	10.6		calm			0		4					
6	29.85	758.3	29.90	759.5	47.5	8.6		e.			4		1					
7	29.82	757.5	29.87	758.7	43.0	6.1		e.			4		4					
8	29.72	754.9	29.77	756.1	41.7	5.4		calm			0		2					
9	29.61	752.0	29.65	753 2	50.0	10.0		e			6		8					
10	29.59	751.6	29.64	752.8	47.8	8.8		calm			0		7					
11	29.60	751.7	29.64	752.9	48.9	9.4		e.			7		6					
12	29.73	755.1	29.78	756.3	41.0	5.0		calm			0		8					
13	29.49	749.0	29.54	750.2	43.9	6.6		calm			0		9					
14	29.58	751.4	29.63	752.6	44.2	6.8		e.			4		7					
15					39.9	4.4		e.			4		8					
16					38.8	3.8		e.			0		6					
17					38.1	3.4		e.			4		3					
18					39.4	4.1		e.			4		3					
19					34.9	1.6		calm			0		6					
20					37.4	3.0		e.			4		7					
21					38.5	3.6		s.			6		6					
22	29.57	751.1	29.62	752.3	38.8	3.8		calm			0		6					
23	29.50	749.4	29.55	750.6	35.6	2.0		sw.			6		8					snowing.
24	29.56	750.7	29.60	751.9	38.5	3.6		e.			4		6					
25	29.53	750.1	29.58	751.3	35.8	2.1		e.			4		4					
26	29.57	751.0	29.61	752.2	38.1	3.4		e.			4		3					
27	29.98	761.5	30.03	762.7	39.2	4.0		e.			6		1					
28	29.57	751.1	29.62	752.3	35.2	1.8		n.			2		4					
29	29.66	753.3	29.71	754.5	36.0	2.2		calm			0		2					
30	29.93	760.3	29.98	761.5	34.5	1.4		n.			2		0					
31	30.05	763.2	30.10	764.4	33.4	0.8		calm			0		0					
Mean	29.71	754.7	29.76	755.9	41.2	5.1							5					

REVIEW.

INTERNATIONAL METEOROLOGY FOR JANUARY, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of January, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, *mean time*:

The area of lowest mean pressure in January, 1885, is located around Unalaschka, where the mean is 29.30 (744.2). The nearest stations of observation to the north and east of Unalaschka are Saint Michael's and Sitka, where the pressure is 29.83 (757.7), indicating a steep gradient in those directions; to the west the increase of pressure is more gradual, and reaches only 29.45 (748.0), at Behring Island. A second area of low mean pressure is found in the north Atlantic over Greenland and Iceland, and is represented by the isobar for 29.5 (749.3), the mean at Upernavik and Stykkisholm being 29.46 (748.3); here, also, the gradient to the eastward is steep while to the westward it is gradual.

Areas of high mean pressure, as usual in January, occupy the centres of the continents, the highest pressure being found in the largest continent. The highest mean pressure reported is 30.67 (779.0), at Nerchinsk, which was also the station of highest pressure in the preceding month, December, 1884. The areas of high pressure in Europe and North America are enclosed by the isobars for 30.3 (769.6) and 30.2 (767.1), respectively; the isobar for 30.2 (767.1) also occupies the Atlantic at the latitude of 30° N. Throughout the United States the mean pressure exceeds 30.0 (762.0). Over the British Isles it ranges from 29.7 (754.4) to 29.9 (759.4). Over British India it ranges from 29.85 (758.2) to 30.05 (763.3); and from northern to southern Japan it rises from 29.90 (759.4) to 30.25 (768.3).

Compared with the chart for the preceding month, the mean pressure has decreased over the Atlantic along the latitude of 35° N., and risen 0.3 (7.6) over the parallel of 65° N. To the area of high pressure over the continent of Asia has been added an additional isobar, 30.6 (777.2), and a very general increase of pressure has taken place over Europe, except in the southern portion, where a decrease of pressure has occurred.

Compared with the corresponding month of previous years, the mean pressure over the United States differs but slightly from the normal, except in the northern and northeastern portions, where it was from .05 (1.3) to .10 (2.5) below the normal.

The following table shows the mean pressure and mean temperature for January, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years:

Countries.	Mean pressure.			Mean temperature.		
	Jan. mean of 8 (1877-'84) years.	Jan., 1885.	Departure.	Jan. mean of 8 (1877-'84) years.	Jan., 1885.	Departure.
				°	°	°
Algeria						
Austro-Hungary	30.18	30.15	— 0.03	33.6	31.8	— 1.8
British Isles	30.03	29.87	— 0.16	41.3	40.0	— 1.3
Denmark	30.04	30.02	— 0.02	32.9	32.2	— 0.7
France	30.16	30.00	— 0.16	42.5	38.4	— 4.1
Germany	30.14	30.07	— 0.07	33.3	31.5	— 1.8
India *	29.92	29.99	+ 0.07	72.1	70.9	— 1.2
Italy	30.10	29.99	— 0.11	48.4	43.7	— 4.7
Norway	29.82	29.98	+ 0.16	30.4	29.5	— 0.9
Portugal						
Russia	30.11	30.21	+ 0.10	21.7	19.9	— 1.8
Spain	30.18	29.99	— 0.19	52.4	45.6	— 6.8
Sweden	29.90	30.04	+ 0.14	25.3	20.8	— 4.5

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of January, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Jan. mean of 8 (1877-'84) years.	Jan., 1885.	Departure.	Jan. mean of 8 (1877-'84) years.	Jan., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.20	30.28	+ 0.08	24.3	20.7	— 3.6
Archangel, Russia	29.79	29.95	+ 0.16	8.5	2.8	— 5.7
Angra, Azores						
Athens, Greece	30.08	30.01	— 0.07	51.9	50.7	— 1.2
Beirut, Turkey in Asia	30.06	29.94	— 0.12	59.7	59.2	— 0.5
Barnaul, Siberia, Asia	30.41	30.38	— 0.03	2.2	— 2.4	— 4.6
Bridgetown, Barbadoes	29.95	29.96	+ 0.01	80.0	80.6	+ 0.6
Cape Town, Cape of Good Hope*				78.8	79.0	+ 0.2
Cagliari, Sardinia, Italy	30.08			54.8		
Ekaterinburg, Russia	30.11	30.05	— 0.06	5.5	— 3.6	— 9.1
Fort Napier, Natal, South Africa	29.77	29.88	+ 0.11	78.2	79.1	+ 0.9
Freetown, Sierra Leone	29.82	29.87	+ 0.05	86.1	83.5	— 2.6
Funchal, Madeira Islands	30.18	30.06	— 0.12	64.6	61.7	— 2.9
Gibraltar				59.7	55.3	— 4.4
Godthaab, Greenland	29.51			14.1		
Havana, Cuba, W. I*	30.07	30.12	+ 0.05	70.4	69.3	— 1.1
Malta, Mediterranean Sea	30.06	29.90	— 0.16	58.9	54.3	— 4.6
Mauritius, Indian Ocean	29.87	29.85	— 0.02	81.4	81.0	— 0.4
Melbourne, New South Wales	29.94	29.96	+ 0.02	62.7	61.7	— 1.0
Mexico, Mexico		30.19			45.1	
Nassau, Bahamas, W. I*	30.13	30.12	— 0.01	71.1	71.9	+ 0.8
Nikolaevsk on the Amoor, Asia		30.07		— 8.5	—20.6	—12.1
Paramaribo, D. Guiana, S. A	29.94	30.00	+ 0.06	78.2	76.5	— 1.7
Pekin, China	30.39			23.0		
Ponta Delgada, Azores	30.10	30.08	— 0.02	60.7	58.3	— 2.4
Sandwick Manse, Orkney Islands	29.90	29.78	— 0.12	39.5	38.9	— 0.6
San Juan de Puerto Rico, W. I	30.02	30.07	+ 0.05	75.2	73.8	— 1.4
Stykkisholm, Iceland	29.56	29.46	— 0.10	28.6	33.6	+ 5.0
Tashkend, Toorkistan, Asia						
Thorshavn, Färöe Islands	29.74	29.65	— 0.09	38.6	40.5	+ 1.9
Tiflis, Russia	30.18	30.23	+ 0.05	38.5	33.3	— 5.2
Tokei, Japan	30.04	30.06	+ 0.02	35.4	32.5	— 2.9
Yeniseisk, Siberia, Asia	30.41	30.43	+ 0.02	— 6.1	— 8.7	— 2.6
York Factory, B. A	30.05			—26.4		
Zi-Ka-Wei, China	30.34	30.39	+ 0.05	35.3	35.1	— 0.2

* Means for seven years only.

In the United States the mean temperature of the air was decidedly below the normal, except on the Atlantic and Pacific coasts. The departures from the normal temperature over the eastern hemisphere are exhibited in the preceding tables.

The following are some of the extremes reported at isolated stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Freetown, Sierra Leone	83.5	28.6	Nerchinsk, Siberia	—18.9	—28.3
Bridgetown, Barbadoes	80.6	27.0	Nikolaevsk on the Amoor, Asia	—20.6	—29.2
Paramaribo, Dutch Guiana, S. A.	76.5	24.7	Yeniseisk, Siberia	— 8.2	—22.6
Puerto Berrio, S. A	79.0	26.1	Akmolinski, Siberia	— 4.2	—20.1
Manila, Philippine Islands	76.5	24.7	Ekaterinburg, Russia	— 2.4	—19.1

NOTE.—*Report from York Factory, B. A., not received.*

In the United States the prevailing winds were from north to northeast in the southern portion and from northwest to west in the northern portion. Over the Atlantic Ocean north of latitude 35° N. the prevailing winds were westerly and northwesterly, and below the parallel of 30° N. easterly winds prevailed. Over Europe easterly winds prevailed in the eastern portion and westerly winds in the western portion.

The precipitation in the United States was, in general, above the average for the month, except in the western portion, where there was a deficiency; in Europe the precipitation was generally below the normal.

TRACKS OF AREAS OF LOW PRESSURE FOR JANUARY, 1885.

Chart iii for January, 1885, shows the approximate paths of twenty-five areas of low pressure that developed in the northern hemisphere during the month. Of this number, ten (i to x, inclusive) are traced in the North American continent; seven (xi to xvii, inclusive) are shown over the Atlantic Ocean; five (xviii to xxii, inclusive) are traced in Europe; and the remaining three (xxiii to xxv, inclusive) appeared in the vicinity of Japan.

Of the areas of low pressure traced in the North American continent, six (numbers i, iii, iv, vi, vii, and ix) first appeared in British America and, in general, taking easterly paths,

advanced over the Lake regions to the coasts of Newfoundland. Two areas (ii and v) developed in the west Gulf states and moved to the northeast until their paths joined those of the northern group. Area number viii appears to have originated to the southwest of Lake Michigan and thence followed the normal path across the Lake region. Area number x was an exception to the others in the position of its track, and also worthy of note because of the severity of the attendant storms. It appeared in Missouri on the 27th as a well-defined storm-centre, and thence moved eastward, with falling barometer, its progress being attended by severe snow storms in the southern districts. On the 28th it reached New Jersey and thence passed up the coast, causing much damage to shipping; numerous wrecks were reported and many lives lost. The barometer on the New England coast fell to 29.50 (749.3). Detailed descriptions of these ten areas of low pressure will be found under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for January, 1885.

Of the depressions traced over the Atlantic Ocean and in Greenland, four (xii, xiv, xv, and xviii) were continuations of low areas which previously moved over the United States and Canada. One (number xvi) appears to have developed off Cape Hatteras on the 24th, from which point it pursued a northeasterly course until it reached the coast of Ireland on the 31st. Number vii started from Newfoundland in a course somewhat north of east, but, gradually turning more to the northward, it passed up the east coast of Greenland until it reached latitude 73° N., where it was merged with an independent depression. Number xi first appeared in 53° N., 25° W., and took a northerly course to Iceland, thence, bending to the southeast, it followed a course to the southern shores of Scandinavia. An unprogressive area of low pressure occupied the ocean to the eastward of Spain from the 17th to the 20th. Descriptions of the more important of the Atlantic storms, with special observations, will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for January, 1885.

The areas of low pressure traced in Europe are few in number and of slight importance. Three (xviii, xxi, and xxii) entered the continent from the Arctic Ocean; number xix originated in the Baltic Sea; and the remaining one (number xx) is traced in the Mediterranean Sea. The course of the last was quite abnormal. Originating near the Gulf of Lyons, it first moved eastward across the Italian Peninsula, at which point of its course it was forced backward by a westerly-moving area of high pressure occupying Europe and Asia. The pressure in the centre of this high area was 31.0 (787.4). The area of low pressure then moved steadily westward until it finally disappeared on the eastern coast of Spain.

Three areas of low pressure (xxiii, xxiv, and xxv) are traced on the Japanese coast, but their progress eastward soon carried them beyond the field of observation, and their subsequent history cannot be determined.

TRACKS OF AREAS OF LOW PRESSURE FOR MARCH, 1883.

The probable paths of forty-five areas of low pressure are traced on chart iii for March, 1883. They are distributed, geographically, as follows: eleven (i to xi, inclusive) are traced in the North American continent; fourteen (xii to xxv, inclusive) are shown over the Atlantic Ocean; eleven (xxvi to xxxvi, inclusive) are traced in Europe; and the remaining nine (xxxvii to xlv, inclusive) appeared in Asia and over the Pacific Ocean.

Of the areas of low pressure traced in North America, six (numbers i, ii, iii, v, vi, and viii) were first observed in the region to the west or northwest of the Lakes; they moved eastsoutheastward to about the eighty-fifth meridian and thence eastward over Canada to the Gulf of Saint Lawrence. Four (numbers vii, ix, x, and xi) originated in the southern or southwestern districts of the United States and moved northeastward to the Atlantic coast; one (number iv) developed near the coast, south of Cape Hatteras, and passed northeastward to the Canadian Maritime Provinces and the Gulf of Saint Lawrence. Most of these low areas displayed considerable storm-energy, especially on approaching the coast line; they were attended by high winds to gales along the coast and also at stations on the Lakes; in the case of number iv, which was the most severe storm of the month, the barometer fell below 29.0 (736.6) when the storm-centre was in the Maritime Provinces. Detailed descriptions of the low areas which passed over the United States are given under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for March, 1883.

Of the fourteen areas of low pressure shown over Greenland and the north Atlantic Ocean, six (numbers xiv, xvi, xviii, xxi, xxii, and xxv) were continuations of storms which had passed into the ocean from the continent; three (numbers xv, xx, and xxxiii) developed over the ocean between the coast of the United States and the sixtieth meridian; one (xii) appeared to the northeastward of Newfoundland; two (numbers xiii and xix) over the region north of 60° N.; one (xxiv) between W. 20° and the coast of the Iberian Peninsula; and one (xvii) over mid-ocean. The direction of movement of the storm-centres appears to have been somewhat unusual in March, 1883. The storms of the first decade of the month, on reaching the fortieth meridian, were apparently forced to the northward by an area of high pressure which occupied the ocean between the meridian above mentioned and the European coast, and which extended as a ridge of high pressure from Iceland southward to the Azores, or from northwestern Europe southwestward over the ocean. During the second decade the pressure gave way over mid-ocean and over the eastern part of the Atlantic, but remained high in Iceland, and during that period the storm-centres traversed the ocean between the parallels of N. 40° and 50°, the tracks inclining to the southeast near W. 30°. During the last decade of the month the pressure was highest over the northwestern part of the ocean and over Greenland, and the areas of low pressures which traversed the ocean during that period moved eastward to about W. 40° and thence northeastward toward the European coasts. Moderate gales, increasing occasionally to force 9–10, accompanied the passage of these low areas, but, as a whole, the weather of the month seems to have been of a less stormy character than is usually experienced during March. The barometer ranged from 29.05 (737.9) to 29.65 (753.1), but fell to 28.7 (729.0) on the 30th, when number xxiii was central off the northern coast of Scotland. Special reports in connection with the weather over the north Atlantic will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for March, 1883.

Of the eleven areas of low pressure traced in the European continent, four (numbers xxvi, xxviii, xxix, and xxxvi) occupied that part of the continent lying south of the forty-fifth parallel, and, in addition to the above, there were three depressions which entered the Iberian Peninsula from the Atlantic Ocean; the direction of movement was easterly or northeasterly. One depression (xxxii) appeared in central Europe; three (numbers xxvii, xxxi, and xxxv) are first traced over the North Sea, southern Scandinavia, and the Baltic; two of them moved southeastward for a short distance and then curved to the northeastward, but one (xxxi) pursued a very unusual path. It apparently originated over the Baltic on the 11th and moved southeastward into east Prussia and thence eastnortheastward to the vicinity of Moscow; it then apparently took up a northerly and westerly movement and on the 14th it was shown near Saint Petersburg; from that point it moved in a westerly direction over Scandinavia and thence southwestward over the North Sea, crossing the British Isles during the 17th and 18th, and finally disappearing in the Atlantic to the southwest of Ireland on the 19th. Three depressions (numbers xxx, xxxiii, and xxxiv) entered northern Scandinavia; the first moved southeastward over the northern part of the Gulf of Bothnia and disappeared in northwestern Russia; the second passed southward over Finland and through central Russia to the Black Sea region. The third followed a somewhat unusual track; it first moved southward over the Gulf of Bothnia and, when near the Gulf of Finland, it apparently curved abruptly

to the northward, passing over Finland during the 25th and disappeared in northwestern Scandinavia on the following day. The areas of low pressure which passed over Europe, while not generally attended by unusual storm-energy, caused very unsettled weather over the continent; the temperature was much below the normal for the month, and the pressure, except in Scandinavia, was also below the normal. During the passage of the above depressions the barometer near the storm-centres ranged from 29.0 (736.6) to 29.6 (751.8), and strong winds to gales prevailed, the latter occurring mostly over the North Sea, the Baltic, and along the coasts. During the passage of numbers xxxiv and xxxv the barometer fell to 28.8 (731.5).

Of the depressions traced in Asia and over the Pacific Ocean, one (number xxxvii) is shown in the eastern part of the continent; it moved from the neighborhood of the Sea of Aral east-northeastward to about 80° E., when its course changed to the northward and westward and the low area moved towards the Ural region, where it disappeared on the 20th. Three depressions (numbers xli, xlii, and xliii) passed northeastward over Japan; the first was the most severe, the barometer falling to 28.85 (732.8), in northern Niphon, on the 16th; in the other depressions the barometer ranged from 29.5 (749.3) to 29.8 (756.9). Numbers xxxviii and xliv occupied Behring Sea and the Sea of Okhotsk, the pressure varying from 29.2 (741.7) to 29.6 (751.8). The remaining disturbances (xl and xlv) appeared over the eastern part of the Pacific; the first moved northeastward from about N. 45°, W. 160° to N. 50°, W. 150°, and thence north-northwestward to the Alaska Peninsula; during its passage the barometer ranged from 29.1 (739.1) to 29.6 (751.8); number xlv moved northward along the coasts of California and Oregon during the closing days of the month, with barometer ranging from 29.3 (744.2) to 29.5 (749.3).

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 36 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◒ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

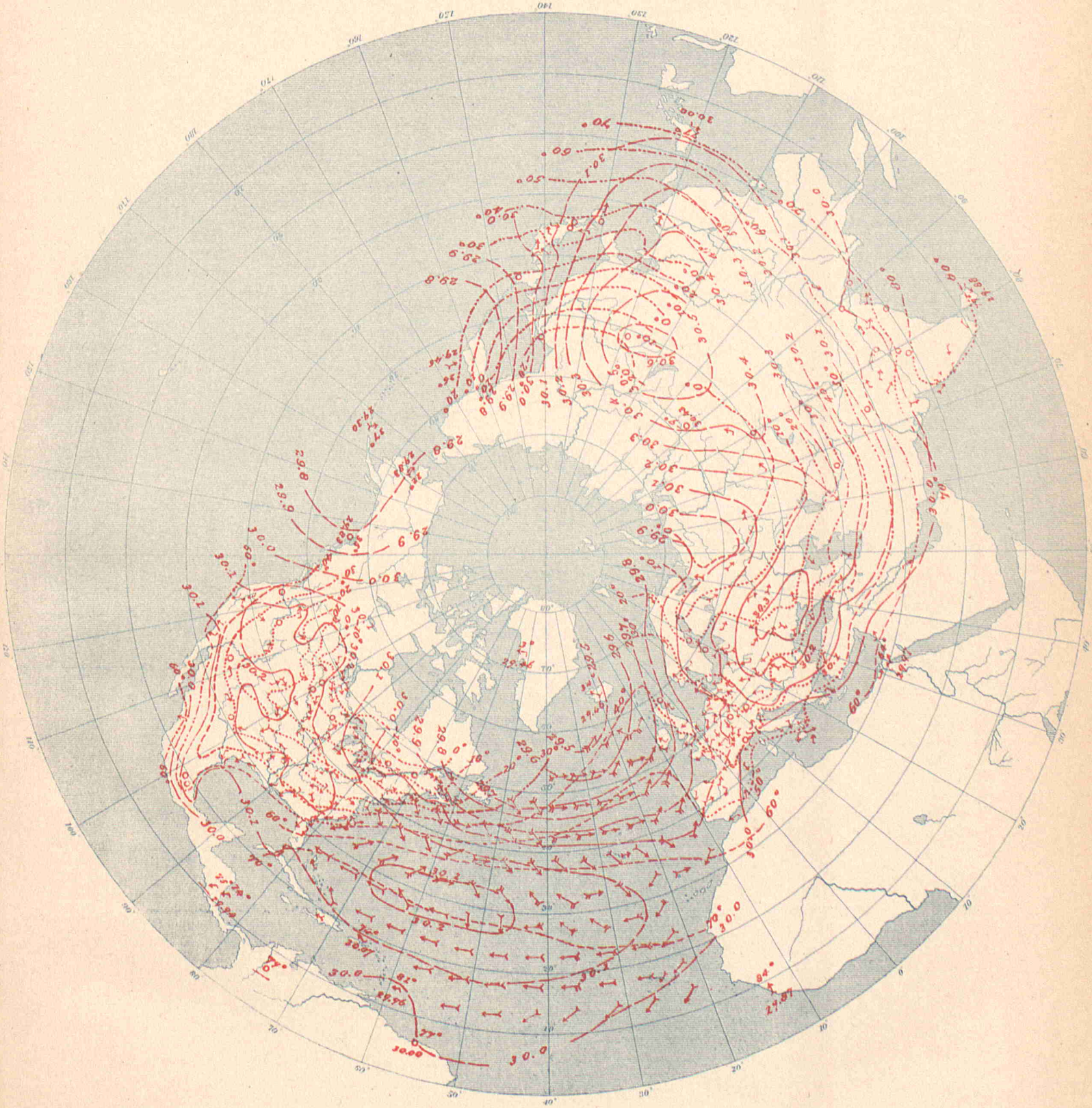
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. January, 1885. Isobars, Isotherms, and Winds.

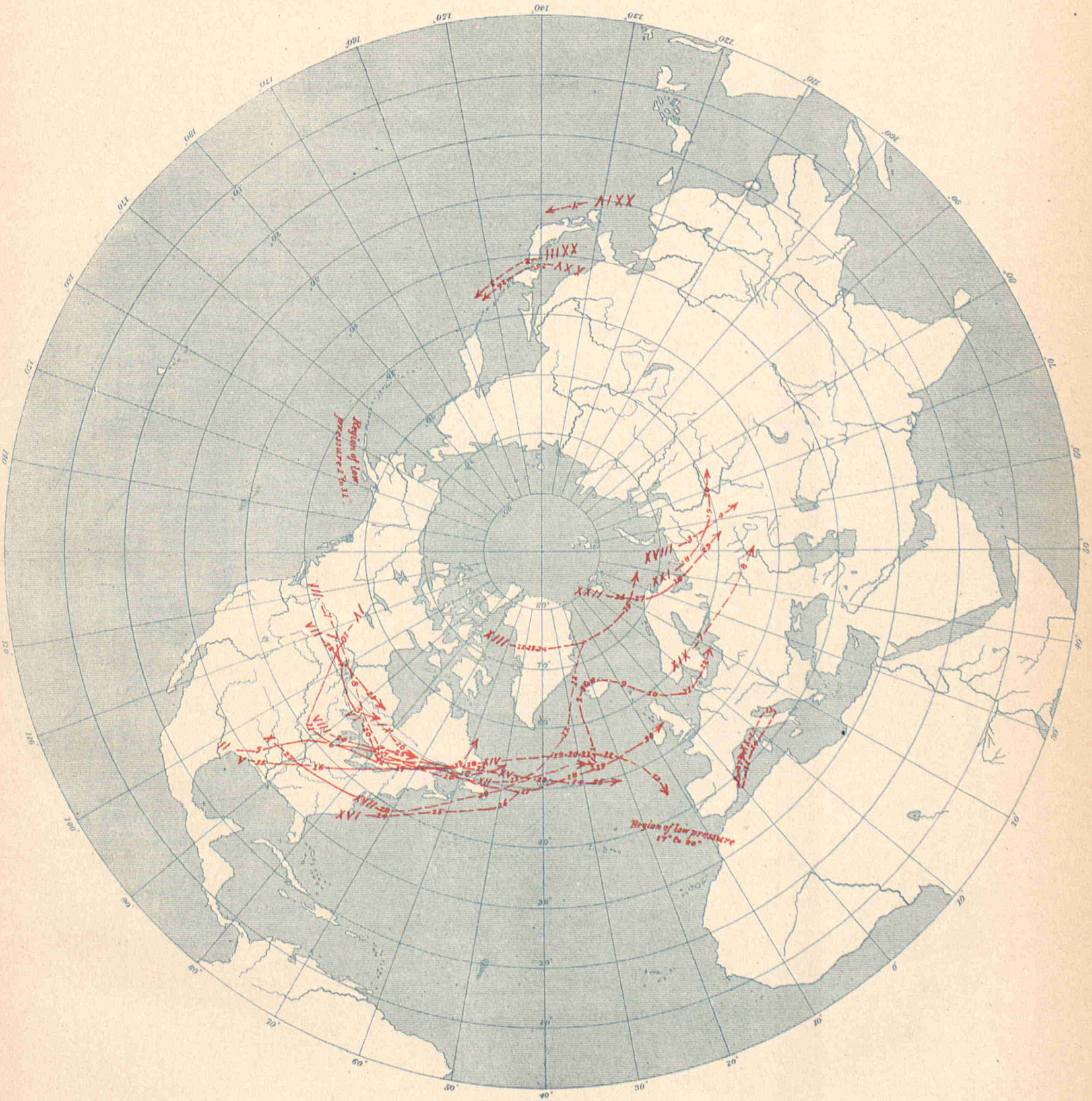


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. January, 1885. Tracks of Areas of Low Pressure.

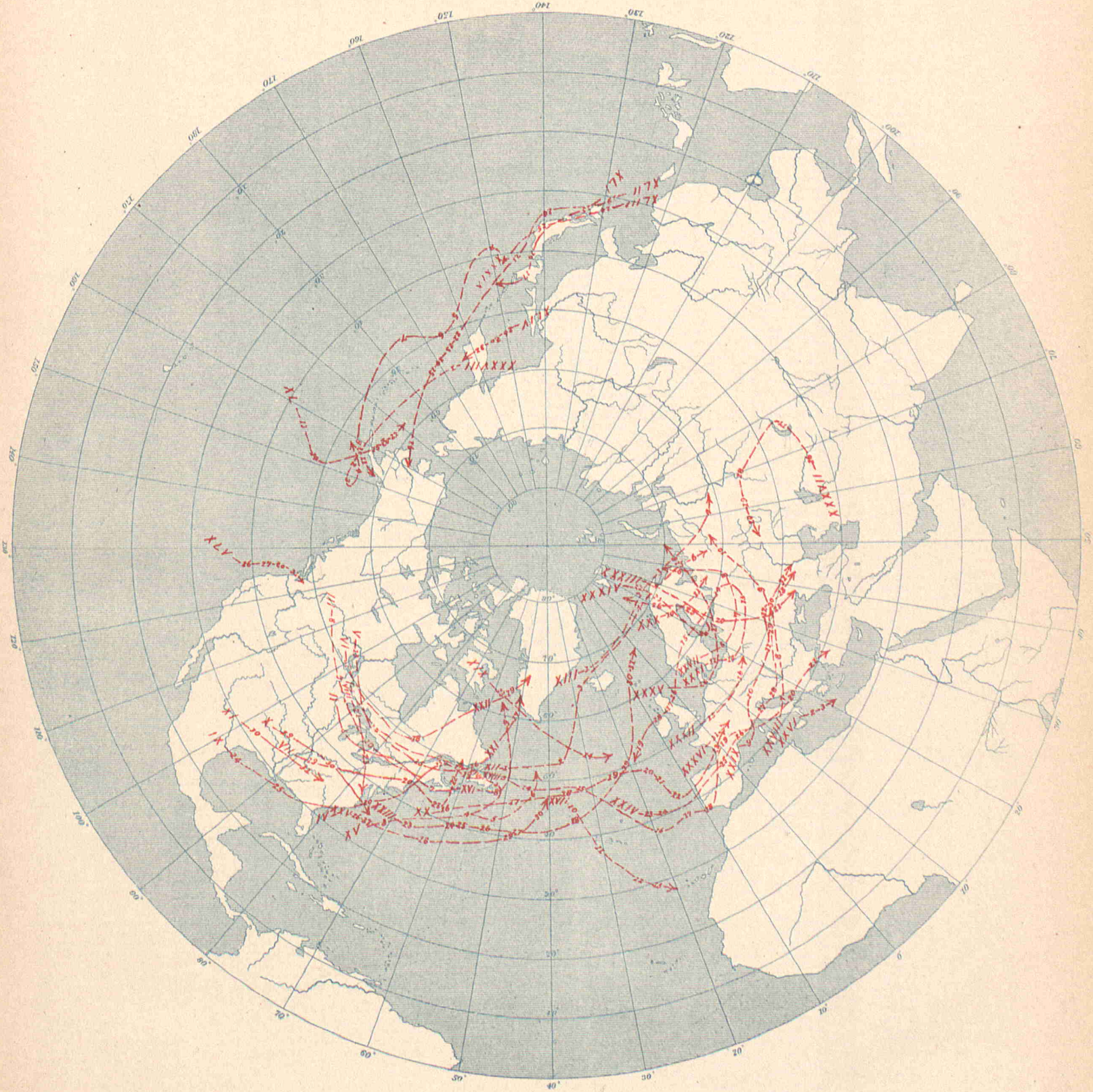


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen Chief Signal Officer.

Signal Office Lith.

International Chart III. March, 1883. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen. Chief Signal Officer.

Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January, 1885—Continued.

Lines and vessels.	Captain.	Observer.
RED STAR LINE—*Continued.*		
Pennland	Rud. Weyor	
Rhynland	J. C. Jamison	Bakker and Spicer.
Switzerland	H. Buschmann	
Westernland	W. G. Randle	W. H. Townshend.
Waesland	J. Ueberweg	
ROTTERDAM LINE.		
Steamship Edam	J. H. Taat	F. Karsh.
P. Caland	F. H. Bonjer	Th. Lehmann.
W. A. Scholten	G. Bakker	P. Steilberg.
STATE LINE.		
Steamship State of Georgia	G. Moodie	Captain.
State of Nevada	J. A. Stewart	Captain.
State of Nebraska	A. G. Brae	Captain.
THINGVALLA LINE.		
Steamship Thingvalla	S. T. H. Laub	Captain.
Geiser	F. V. Schierbeck	
WARREN LINE.		
Steamship Iowa	S. Walters	
WHITE STAR LINE.		
Steamship Adriatic	H. Parsell	W. P. Brownlee.
Britannic	H. Perry	Captain.
Celtic	Benj. Gleadell	
Germanic	C. W. Kennedy	C. Lancaster.
Republic	P. J. Irving	
WILSON LINE.		
Steamship Galileo	R. Potter	Captain.
Lepanto	J. T. Rogers, R. N. R.	
Marengo	J. H. Malet	Captain.
WINSOR LINE.		
Steamship Norman	H. W. Goggins	Captain.
Saxon	S. W. Snow	Captain.
U. S & BRAZIL MAIL STEAMSHIP COMPANY.		
Steamship Finance	Mandell	J. Lord.
MISCELLANEOUS.		
Ship Anni	B. Fortmann	Captain.
Schooner Abbie H. Gheen	W. W. Gheen	Captain.
Brig Abbie Clifford	D. W. Storer	Captain.
Schooner Addie Doane	L. F. Ackerly	Captain.
Barkentine Addie Morrill	G. A. Andrews	Captain.
Ship Ariel	F. Schwing	Captain.
Ship Agra	A. Hogemann	H. Shutte.
Bark Albemarle	W. H. Forbes	Captain.
Ship Alcester	L. C. Dart	Captain.
Schooner Anna A. Holton	Geo. Smith	Captain.
Bark Antonio Sala	F. H. Mitchell	Captain.
Bark Angela Schiaffino	Enrico Schiaffino	Captain.
Bark Artisan	J. Dwyer	Captain.
Ship Armenia	E. L. Carter	Captain.
Brig Belle of the Bay	R. O. Welton	Captain.
Steamship Bracadaile	E. Weddall	
Steamship Biela	F. Graham	Captain.
Barkentine C. S. Bushnell	J. T. Mayo	Captain.
Brig Caroline Gray	A. F. Pillsbury	Captain.
Bark Cornelius	H. Windhorse	Captain.
Bark Childwall	Thomas O. Watson	Captain.
Ship Columbus	Sauermilch	F. de Boer.
Bark Corisande	Daniel Thomas	Captain.
Bark Diamant	L. Haesloop	Captain
Ship Derby	B. Fortmann	T. G. Penon.
Ship Dora	F. H. Myer	W. Asmund.
Ship Dynomene	W. Randall	Captain.
Schooner Ellen Crusoe	J. F. Mountfort	Captain.
Schooner Ettie H. Lister	Smith D. Mason	Captain.
Steamship East Anglia	W. H. Thomas	Captain.
Ship E. J. Spicer	B. Spicer	Captain.
Bark Exile	G. J. Pearce	Captain.
Bark Gamaliel	C. S. Powell	Captain.
Bark George Davis	T. Macumber	Captain.
Ship Gatherer	J. S. Lowell	Captain.
Schooner Geo. W. Lochner	J. C. Wiltbank	Captain.
Brig George	W. H. Champlain	Captain.
Bark Haabet	K. Olsen	E. Knudsen.
Schooner Henry Waddington	W. H. Magee	Captain.
Steamship Hipparchus	W. Kelley	Captain.
Bark Idaho	W. S. Richardson	Captain.
Ship Ida	W. Schneider	Captain.
Ship Iolanthe	Geo. Scott	Captain.
Schooner Jennie R. Morse	A. D. Calcord	Captain.
Brig John Wesley	J. Thompson	Captain.
Schooner John J. Hanson	L. J. Stevens	Captain.
Barkentine John Balzley	F. P. Shepherd	Captain.
Steamship Kairos	T. Liddle	Captain.
Bark Levanter	A. F. Vesper	Captain.
Brig Lilian	H. F. Schive	Captain.
Brig L. F. Munson	J. A. Smith	Captain.
Brig L. & W. Armstrong	A. Alexander	Captain.
Schooner Maggie Abbott	D. C. McIntosh	Captain.
Brig Mary Fink	D. B. Darrah	Captain.
Schooner Mary Nowell	W. M. Lank	Captain.

Lines and vessels.	Captain.	Observer.
MISCELLANEOUS—*Continued.*		
Schooner Maud Snare	E. W. Snare	Captain.
Schooner Moses Webster	G. W. Rhodes	Captain.
Ship Mary L. Stone	G. L. Josselin	Captain.
Bark Mohican	B. F. Berry	Captain.
Steamship Monte Rosa	W. T. Irving	Captain.
Ship Morna	J. H. Goodwin	Captain.
Schooner Nelson Bartlett	Samuel Watts	Captain.
Schooner Norena	A. B. Chase	Captain.
Steamship North Anglia	C. N. Mumford	Captain.
Steamship Ocean King	G. Denham	H. W. Gould.
Bark Orpheus	G. Myer	Captain.
Ship Otto	H. Fortmann	Captain.
Bark Paladin	J. A. Bettencourt	Captain.
Barekntine Payson Tucker	C. Brown	Captain.
Bark Qvos	G. Olsen	Captain.
Ship Ringleader	J. C. Entwisle	Captain.
Brig Rising Sun	A. Decker	Captain.
Bark River Ganges	T. Naile	Captain.
Bark Rosebud	J. Collin	Captain.
Steamship Roman	D. Williams	Captain.
Bark Rosina	G. Comaselli	Captain.
Bark Saga	O. P. Lövig	Captain.
Bark Spotless	C. E. Myrick	Captain.
Steamship Strathleven	C. W. Pearson	Captain.
Schooner Stephen Bennett	Wm. Douglas	Captain.
Ship Stephen D. Horton	J. Spicer	Captain.
Ship St. David	W. W. Frost	Captain.
Bark Templar	R. Roberts	Captain.
Schooner Thomas Clyde	A. J. Biddle	Captain.
Bark Tros	Severin Brager	Captain.
Bark Vikingen	J. C. Andersen, jr.	Captain.
Ship Vincenzo Accame	N. V. Lavagna	Captain.
Schooner Viola Reppard	Louis Ogier	Captain.
Bark Western Chief	F. Sander	Captain.
Bark Winifred	N. P. Dutton	Captain.
Bark Xenia	N. E. Reynolds	Captain.
BRITISH NAVAL.		
H. M. S. Alexandra	Rawson, C. B	G. Yeates.
H. M. S. Amethyst	Brent	C. B. Clark.
H. M. S. Agamemnon	Long	
H. M. S. Alecto	Lieut. Dean	Lieut. Dean.
H. M. S. Audacious	H. Pearson	Staff Com. Neville.
H. M. S. Boadicea	Church	Lieutenant Hulbert.
H. M. S. Briton	Lloyd	Lieut. Fleet.
H. M. S. Cleopatra	Hippisley	F. W. Barrett.
H. M. Dockyard, Bermuda	Grant	J. H. Ellis.
H. M. S. Dreadnought	Hon. E. R. Fremantle	Staff Com. Jackson.
H. M. S. Eurydus	Hastings, C. B.	Staff Com. Hire.
H. M. S. Flying Fish	MacLear	Lieut. Howard.
H. M. S. Heroine	Blackburne	Lieut. Nedham.
H. M. S. Monarch	Bedford	Staff Com. Wood.
H. M. S. Nelson	Erskine, A. D. C	Staff Com. Osborne.
H. M. S. Opal	Brooke	Lieut. Roche.
H. M. S. Orontes	H. G. Andoe, C. B.	Lieut. Way.
H. M. S. Sylvia	P. Aldrich	
H. M. S. Tamar	Warren	Lieut. Heyward.
H. M. S. Turquoise	Woodward	Lieut. Murray.
H. M. S. Wanderór	Churchill	Lieut. Lancelot
PORTUGUESE NAVAL.		
H. P. M. S. Rainha de Portugal	F. G. de Brito Capello	Alberto Merono.
H. P. M. S. Tamega	José d'Almeida d'Avila	E. A de Macedo.
H. P. M. S. Rio Lima	A. N. Castillo Barreto e Noronha.	Pedro Berquo.
SWEDISH NAVAL.		
H. S. M. S. Balder	R. von Hedenberg	Officers
H. S. M. S. Vanadis	Otto Lagerberg	Officers.
DUTCH NAVAL.		
Bromo		
Koningen Emma der Nederlanden		
Prins Hendrick der Nederlanden		
UNITED STATES NAVAL.		
U. S. S. Alert	C. J. Barclay	Officers.
U. S. S. Alliance	Lewis Clark	Officers.
U. S. S. Enterprise	A. S Barker	Officers.
U. S. S Galena	T. F Kane	Officers.
U. S. S. Hartford	G. H. Perkins	Officers.
U. S. S. Iroquois	Yates Stirling	Officers.
U. S. S. Jamestown	C. V. Gridley	Officers.
U. S. S. Juniata	P. F. Harrington	Officers.
U. S. S. Kearsarge	W. R. Bridgman	Officers.
U. S. S. Lackawanna	A. P. Cooke	Officers.
U. S. S. Lancaster	E. E. Potter	Officers.
U. S. S. Michigan	J. J. Read	Officers.
U. S. S. Monongahela	H. L. Johnson	Officers.
U. S. S. Monocacy	F. J. Higginson	Officers.
U. S. S. Ossipee	J. F. McGlensey	Officers.
U. S. S. Palos	G. M Book	Officers.
U. S. S. Pinta	H. E. Nichols	Officers.
U. S. S. Portsmouth	Silas W Terry	Officers.
U. S. S. Powhatan	L. A. Beardsley	Officers.
U. S. S. Quinnebaug	N. Ludlow	Officers.
U. S. S. Ranger	C. E. Clark	Officers.
U. S. S. Saratoga	W. H. Whiting	Officers.
U. S. S. Shenandoah	Chas. S. Norton	Officers.
U. S. S. Swatara	G. C. Wiltse	Officers.
U. S. S. Tennessee	O. F. Stanton	Officers.
U. S. S. Trenton	R. L. Phythian	Officers.
U. S. S. Wachusetts	A. T. Mahan	Officers.
U. S. S. Yantic	F. Wildes	Officers

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I.R.Central Met. Ob's'y.
BELGIAN.	
Arlon	
Brussels	
Furnes	
Maeseyck	
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W.I.	Corp'l C.McGregor, A.H.C.
Chatham, School M. E	W. Skipper, R.E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Corp'l C. Stares, A. H. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jert, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	Corp'l H. Keene, A. H. C.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	James R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B	Hon. J. Ferguson
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough	W. Tassie, M. A.
Port Arthur	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
CAPE COLONY.	
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace.
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Rafael Moreno.
Niebla	Federico Köhling.
Punta Caldera	Manuel Tobar.
Punta Corona	Francisco Alvarado.
Quiriquina	Leon Herrera.
Valparaiso	Paez-i-Ampuero.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Upernavik, Greenland	
Vestervig	Loerer Oesterbol.
EGYPTIAN.	
Cairo	Albert Ismalun, Director.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Bar-sur-Seine	M. Saillard, Director.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N.School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Richard, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Laroceque, Director.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotlier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Borigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Agawa.
Hakodate	
Hamamatsu	J. Sekigawa & M. Yamazaki.
Hiroshima	J. Okamoto.
Kagoshima	G. Miyanohara.
Kioto	M. Tojima.
Kochi	K. Kusunose.
Miasaka	T. Ishitain.
Miyako	S. Honno & K. Suwa.

Stations.	Observers.
JAPANESE—*Continue*	
Nagasaki	S. Takehayashi.
Nemuro	A. Shibuya.
Niigata	T. Satoo & C. Tomikawa.
Nobiru	H. Yoshino and T. Tanno.
Numadzu	R. Kaneda
Osaka	H. Omura.
Sakai	H. Yamawchi & P. Yoshimura
Shimonoseki	
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Leon	M. Leal & M. Pina.
Mazatlan	F. G. Weidner.
Mexico	Central Observatory.
Pabellon	M.V.de Leon, M.E.
Puebla	Prof. P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Lt. J. J. Roptman, R. D. N.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sselliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elissawetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	
Staroi Bykhov	Carl Hagen.
Tiflis	Physical Observatory.
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	M. O. Marks.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Murcia	Olayo Diaz Director.
Oviedo	Prof. L. G. Frades.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Vilos, S. J.
Manila, Philippine Islands	José Mirgadas, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W.I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Granada, Nicaragua	A. Salaverri.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Puerto Berrio, U. S. C.	Francisco J. Cisneros.
Rivas, Nicaragua, C. A	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF FEBRUARY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
MARCH, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February, 1885.

Lines and vessels.	Captain.	Observer.
ALLAN LINE.		
Steamship Circassian	R. H. Hughes	C. Gregson.
Grecian	C. E. Le Gallais	Le Gallais & Moar.
Norwegian	J. G. Stephen	A. Rankine.
Siberian	R. P. Moore	T. R Morris.
AMERICAN STEAMSHIP COMPANY.		
Steamship British Princess	E. H. Freeth	C. Austin Scott.
Illinois	G. H. Dodge	
Lord Clive	P. Urquhart	T. L. Knight.
ANCHOR LINE.		
Steamship Australia	Alex. McRichie	Thos. Pollew.
Devonia	Hugh Young	Captain.
Ethiopia	J. Wilson	C. C. Reid.
Furnessia	L. Garrick	G. Boyle.
Trinacria	G. Mitchell	Captain.
ANGLO-AUSTRALIAN LINE.		
Steamship Port Phillip	G. Dulling	O. W. Read.
ATLAS LINE.		
Steamship Andes	R. de Echevarrieta	Captain.
Ailsa	John W. Sansom	M. J. Austin.
Alvo	D. Williams	T. MacKnight.
Athos	H. Low	2d Officer.
BRISTOL CITY LINE.		
Steamship Llandaff City	T. L. Weiss	Wm. Fitt.
CALIFORNIA & MEXICAN STEAMSHIP CO.		
Steamship Newbern	E. T. Rogers	Captain.
CANADA SHIPPING COMPANY.		
Steamship Lake Huron	William Bernson	Captain.
EDWARD CARR'S LINE.		
Steamship Australia	G. Franck	Captain.
CUNARD LINE.		
Steamship Aurania	W. H. P. Hains	W. E. D. Martin.
Bothnia	J. Roberts	H. McMillan.
Catalonia	A. McKay	A. W. Sholton.
Cephalonia	H. Walker	L. F. Seret.
Gallia	M. Murphy	J. H. Mills.
Scythia	P. Whelan	Captain.
FURNESS LINE.		
Steamship Durham City	M. P. Lund	Captain.
Stockholm City	K. Doyle	J. H. Hook.
GENERAL TRANS-ATLANTIC CO.		
Steamship Canada	G. S. de Kersabiec	A. Theibold.
Laborador	P. d'Hauterive	Captain.
St. Laurent	M. de Jousselin	Captain.
GUION LINE.		
Steamship Alaska	G. S. Murray	Captain.
Arizona	Samuel Brooks	Captain.
Wyoming	C. L. Rigby	E. Lamb.
HAMBURG AMERICAN PACKET CO.		
Steamship Bohemia	R. Karlowa	Captain and P. Kobbner.
Gellert	W. Kühlewein	Bassewitz 3d officer.
Lessing	B. Voss	Captain.
Moravia	O. Pezoldt	3d Officer.
Rugia	A. Albers	
Westphalia	H. Barends	Magin.
INMAN LINE.		
Steamship City of Berlin	Francis S. Land	C. E. F. Clinton.
City of Richmond	A. W. Lewis	Chas. Power.
City of Montreal	A. Redford	Captain.
ITALIAN NAVIGATION COMPANY.		
Steamship Archimede	Domenico Viola	Captain.
JOHNSON LINE.		
Steamship Nessmore	John Inch	A. Moar.
LAMPORT & HOLT'S STEAMSHIP CO.		
Steamship Biela	F ed Graham	Captain.
Hevelius	John Carroll	Captain.
Hipparchus	Wm. Kelly	Captain.
Olbers	Jas. Clarke	Captain.
LEYLAND LINE.		
Steamship Bulgarian	E. Parry	Captain.
Venetian	W. H. Trant	Captain.

Lines and vessels.	Captain.	Observer.
MALLORY LINE.		
Steamship Lampasas	M. B. Crowell	
San Marcos	A. C. Burrows	Captain.
MISSISSIPPI & DOMINION STEAMSHIP CO.		
Steamship Brooklyn	G. S. Dale	Captain.
Oregon	H. C. Williams	Captain.
Ontario	W. P. Couch	Captain.
Toronto	Jas. McAuley	Jos. Frith.
MORGAN LINE.		
Steamship Chalmette	R. B. Quick	Captain.
NATIONAL LINE.		
Steamship Erin	J. Robinson	J. S Grant.
France	Wm. Pearce	
Spain	J. Sumner	Captain.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.		
Steamship Cienfuegos	F. M. Faircloth	Faircloth & Dougherty.
NEW YORK, HAVANA AND MEXICAN MAIL STEAMSHIP COMPANY.		
Steamship City of Alexandria	J. W. Reynolds	Captain.
NEW YORK HERALD WEATHER SERVICE.		
Steamship Acapulco	W. G. Shackford	
Alene	E. B. Seiders	
Albano	H. R. Hughes	
Algiers	J. B. Percy	
Colon	S. G. Porter	
City of Puebla	J. Deuken	
City of Chicago	Fred Watkins	
Carn Marth	W. C. Boynes, C. O.	
Persian Monarch	W. Duncombe	
Saratoga	J. McIntosh	
Zaandam	E. Chevalier	
NORTH GERMAN LLOYD STEAMSHIP CO.		
Steamship America	G. Meyer	Koenemann & Jacobs.
Donau	R. Ringk	Albrecht and Thomer.
Elder	W. Willigerod	F. Mirow.
Elbe	F Hamelmann	A. Gorsbach.
Ems	C. Leist	
Fulda	C. Heimbruch	Grosch.
General Werder	H. Christoffers	Albrecht & Kiehne.
Habsburg	F. Pfeiffer	Trano & Prehn.
Hermann	H. Baur	E. Steinbrunn.
Main	H. Hellmers	Strunck & Vovell.
Neckar	R Bussius	
Nurnberg	A. Jaeger	Burgwald & Sibert.
Salier	C. Wiegand	R. Richter.
Strassburg	H. Heineke	Dorstling & Mueller.
Werra	J. Barre	Captain.
OCCIDENTAL & ORIENTAL STEAMSHIP COMPANY.		
Steamship Oceanic	J. Metcalfe	Geo. T. Tilston.
OCEAN STEAMSHIP COMPANY.		
Steamship City of Augusta	K. S. Nickerson	N. F. Howes.
OCEANIC STEAMSHIP COMPANY		
Steamship Alameda	H. G. Morse	Officers.
Mariposa	H. M. Hayward	T. Golding.
OREGON RAILWAY & NAVIGATION CO.		
Steamship City of Chester	T. Wallace	
Columbia	F. Bolles	A. Fedtzen.
Oregon	E. Polemann	C. Christensen.
Geo. W. Elder	H. S. Achley	
PACIFIC COAST STEAMSHIP COMPANY.		
Steamship Mexico	T Huntington	
Orizaba	John N. Ingalls	Captain.
Santa Rosa	C. B. Johnson	Captain.
PACIFIC MAIL STEAMSHIP COMPANY.		
Steamship Australia	R. C. Ghest	L. L. Stewart.
City of New York	R. R. Searle	J. A. Christiansen.
City of Pekin	G. G. Berry	T. Mortensen.
City of Rio de Janeiro	W. B. Cobb	G. Ankers.
City of Sydney	H. C. Dearborn	J T Smith.
City of Tokio	Jefferson Maury	
Colima	W B. Seabury	J. M Doyle.
Granada	M. Connolly	
San Blas	T Chapman	
QUEBEC STEAMSHIP COMPANY.		
Steamship Muriel	G. S. Locke	Captain.
Orinoco	J S. Garvin	Captain.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF FEBRUARY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
MARCH, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

FEBRUARY, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	O	Miles	Kil.	0–10	Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.84	757 9	29.96	761.0	66.6	19.2	55.0	.....	.....	1	9	10	5	2	1	.....	7158	11520	4	0.91	23.1
Hobart Town	S. 42 53	E. 147 20	9.49 p.m.	190	58	29.65	753.1	29.84	757.9	58.0	14.4	88.0	4	4	2	1	6	6	.....	.....	5	.....	.....	7	1.93	49.0
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.84	757.9	29.91	759.7	62.6	17.0	73.0	3	1	4	2	9	7	1	.....	1	.....	.....	6	2.76	70.1
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.53	750.0	30.08	764.0	45.1	7.3	51.3	.....	.....	.....	10	1	4	6	7	.....	.....	.....	6	1.24	31.6
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.26	743.2	30.07	763.7	37.0	2.8	79.6	1	3	4	2	1	1	8	8	.....	.....	.....	6	1.03	26.1
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.17	740.8	30.08	764.0	33.4	0.8	80.3	5	.....	.....	.....	6	.....	.....	.....	17	.....	.....	7	0.21	5.3
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.77	730.7	30.06	763.5	39.4	4.1	76.3	1	2	2	6	9	1	3	3	1	.....	.....	5	0.78	19.8
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.60	726.4	30.08	764.0	39.9	4.4	69.0	2	1	3	1	2	17	2	.....	.....	.....	.....	5	0.58	14.6
Kreinsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.62	726 9	30.02	762.5	36.1	2.3	83.5	.....	1	6	1	.....	.....	7	10	3	.....	.....	5	0.70	17.8
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.05	737.8	30.09	764.3	34.5	1.4	73.8	1	2	4	3	2	9	5	2	.....	.....	.....	5	0.56	14.3
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.92	760 0	30.04	763.0	48.9	9.4	74.8	.....	4	6	2	1	5	1	7	2	.....	.....	5	1.21	30.7
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.56	750.9	30.05	763.3	41.4	5.2	74.0	5	.....	3	7	6	2	4	1	.....	.....	.....	5	0.10	2.6
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	256	78	29.76	755 9	30.05	763.2	43.0	6.1	68.9	3	5	.....	.....	9	3	.....	2	6	.....	.....	6	0.38	9.6
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.97	761.2	30.07	763 7	47.5	8.6	68.2	.....	3	1	1	.....	2	.....	10	11	.....	.....	5	2.88	73.1
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.32	744.6	30.07	763.7	39.0	3.9	75.7	3	5	3	....	1	11	2	1	2	.....	.....	5	0.42	10.7
BELGIAN																										
Arlon	N. 49 40	E. 5 48	0.23 p.m.	?	?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brussels	N. 50 51	E. 4 22	0.17 p.m.	187	57	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Furnes	N. 51 04	E. 2 40	0.11 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maeseyck	N. 51 06	E. 5 48	0.23 p.m.	115	35	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
BRAZILIAN.																										
Rio de Janeiro.*d*	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.78	756.4	29.95	760.7	81.0	27.2	68.5	3	11	.....	.....	1	1	.....	8	.....	.....	.....	5	2.76	70.0
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.35	745.5	29.48	748.8	41.2	5.1	74.0	..	1	5	5	14	3	.....	.....	.....	9444	15198	6	3.17	80.5
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.60	751.8	44.7	7.1	76.0	.....	2	3	9	5	4	2	3	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.05	737.9	29.60	751.8	41.4	5.2	84.6	2	3	1	4	14	2	1	1	.....	.....	.....	9	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.18	741.2	29.60	751.8	44.0	6.7	80.0	3	3	3	8	8	.....	...	3	.....	.....	.....	8	2.77	70.4
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	30.00	762.0	29.96	761.0	82.7	28.2	73.4	.....	.....	.....	.....	.....	.....	6	22	.....	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.57	751.1	29.76	755.9	46.6	8.1	79.8	.....	1	3	13	3	6	2	.....	.....	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	(29.50	(749.3	(29.75	(755.6	48.2	9.0	83.6	.....	1	5	9	10	.....	2	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.57	700 3	29.82	757.4	82.1	27.8	52.9	2	1	.....	.....	6	2	9	8	.....	.....	.....	4	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.64	752.8	29.81	757.2	83.5	28.6	87.0	4	.....	4	1	7	3	4	.....	5	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.41	747.0	29.47	748.5	45.0	7.2	81.9	1	2	3	13	3	1	3	2	.....	.....	.....	7	3.09	78.5
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	60.7	15.9	95.8	2	10	.....	5	...	2	3	6	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.00 m.	159	48	29.55	750.6	29.74	755.4	46.9	8.3	79.1	1	1	1	7	15	.....	1	1	1	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.46	748.3	29.77	756.1	47.2	8.4	87.1	.....	1	3	9	12	1	2	..	8025	12915	7	4.95	125.7
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.69	754.1	29.75	755.6	47.0	8.3	74.9	1	3	2	8	12	.....	1	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.37	746.0	29.65	753.1	46.5	8.1	77.0	....	2	.....	20	1	2	.....	2	1	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.96	761.0	30.01	762.2	58.5	14.7	80.2	.....	14	1	8	.....	2	2	1	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.01	762 2	30.01	762 2	69.6	20.9	84.5	3	2	1	7	2	3	3	7	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.46	748 3	29.71	754.6	47.2	8.4	78.4	.....	1	:	9	12	3	.....	2	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.62	752.3	29.70	754.4	47.7	8.7	89.2	.....	3	3	9	10	1	1	1	.....	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.26	743.2	29.40	746 7	38.6	3.7	94.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.98	761.5	30.04	763 0	46.5	8.1	74.9	2	1	.....	4	2	1	.....	17	1	.....	.....	8	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	29.48	748.8	29.54	750.3	43.3	6.3	83.8	3	.....	7	10	2	1	5	.....	.....	.....	.....	7	3.83	97.3
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.01	752.1	42.8	6.0	79.8	1	1	4	8	8	2	1	3	.....	.....	.....	9	3.08	78.2
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.51	749.5	29.55	750 6	46.7	8.2	79.1	2	.....	6	4	9	2	2	3	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.68	753.9	30.05	763.3	59.0	15.0	71.4	1	10	5	3	4	.....	4	1	.....	5313	8550	6	0.26	6.6
CANADIAN.																										
Bathurst, *d*	N. 47 39	W. 65 42	7.37 a m.	35	11	29.82	757.4	29.87	758 7	11.3	—11.5	.....	2	2	3	4	2	....	.....	2	9	.....	.....	8	3.68	93.5
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.80	756.9	29.84	757.9	12.4	—10.9	.....	3	1	8	2	1	2	1	1	9	4923	7923	6	2.37	60.2
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.81	757.2	29.88	758.9	3.8	—15.7	96.4	4	2	4	11	1	.....	.....	4	2	3142	5056	6	4.52	114.8
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.73	755.1	29.95	760.7	0.5	—18.1	98	.....	5	13	1	1	....	4	4	.....	.....	.....	6	2.29	58.2
Dalhousie, *e*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.82	757.4	29.89	759.2	6.8	—14.0	.....	.....	18	.....	.....	.....	1	3	.....	3	.....	.....	5	3.20	81.3
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.87	758.7	29.90	759.4	8.5	—13.1	88.6	.....	4	2	12	1	5	.....	4	.....	10830	17429	8	2.60	66.0
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.14	740.1	30.14	765.5	14.1	—25.6	.....	6	10	.....	1	8	1	.....	.....	2	6809	10958	5	0.42	10.7
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.85	758.2	29.92	760.0	3.0	—16.1	91	2	7	9	1	1	1	.....	5	2	4677	7527	5	3.14	79.8
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.83	757.7	29.89	759.2	17.4	— 8.1	80.0	6	5	4	.....	1	3	2	6	1	9315	14991	6	1.58	40.1
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28 84	732.5	30.06	763.5	4.5	—15.3	94	2	5	6	1	2	1	.....	.....	11	.....	.....	6	0.90	22.9
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.72	754.9	29.86	758.4	17.1	— 8.3	88.6	6	3	12	1	1	1	3	1	.....	.....	.....	5	5.09	129.3
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29 54	750.3	29.99	761.7	9.1	—12.7	84	.....	2	.....	23	.....	1	2	.....	.....	.....	.....	5	2.62	66.5
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.02	752.3	30.00	762.0	2.6	—16.3	86.6	2	4	6	3	2	1	4	4	2	4582	7374	6	2.88	73.2
LittleGlace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.73	755.1	29.77	756.1	19.4	— 7.0	91	6	4	6	2	1	3	.....	6	.....	.....	.....	5	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.10	739.1	30.07	763.8	2.2	—16.6	89	1	1	5	2	.....	.....	.....	.....	19	2640	4249	6	2.00	50.8
Medicine Hat, *b*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.68	703.1	30.13	765.3	6.0	—14.4	95.5	3	1	4	3	1	.....	.....	1	13	5015	8071	4	0.37	9.4
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.03	711.9	30.18	766.6	13.9	—25.5	.....	1	9	7	.....	1	.....	5	4	1	.....	.....	4	0.54	13.7
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.74	755.4	29.97	761.2	2.0	—16.7	88.2	.....	1	9	8	4	1	2	3	.....	.....	.....	5	4.79	121.7
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	224	68	29.70	754.4	29.98	761.5	1.9	—18.6	93	2	3	10	5	.....	.....	1	7	.....	5837	9394	5	2.33	59.2
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	191	29.22	742.2	29.99	761 7	1.1	—18.4	77.8	3	.....	4	1	.....	3	6	.....	11	.....	.....	6	1.68	42.7
Peterboro	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.19	741 4	30.01	762.2	0.9	—17.3	95	.....	3	1	4	.....	1	2	6	11	.....	.....	5	1.75	44.4
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.23	742.4	30.03	762.7	5.8	—21.0	80.6	1	8	4	.....	.....	1	.....	1	13	2845	4578	5	0.59	15.0
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.27	743.4	30.04	763 0	5.1	—14.9	.....	2	2	3	5	.....	.....	.....	3	13	4730	7612	7	1.23	31.2
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.31	744.5	30.05	763.3	3.0	—16.1	86.2	1	2	12	.....	1	.....	6	2	4	.....	.....	7	1.57	39.9
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.59	700 8	30.15	765 8	6.1	—21.2	.....	.....	13	.....	7	.....	3	2	.....	3	8481	13649	5	0.34	8.6
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.54	750.3	29.94	760.5	2.0	—16.7	78.2	.....	1	12	5	.....	.....	.....	3	4	.....	.....	8	3.30	83.8
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.45	748.0	29.97	761.2	5.6	—20.9	.....	.....	7	3	.....	.....	1	2	1	14	.....	.....	6	2.13	54.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.79	756.7	29.85	758.2	11.4	—11.4	.....	1	15	.....	.....	.....	2	.....	7	3	.....	.....	3	3.77	95.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.72	754.9	29.88	758.9	12.4	—10.9	88	13	5	3	2	.....	2	2	1	.....	.....	.....	5	3.97	100.8
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.21	741.9	30.00	762.0	2.3	—16.5	87.8	5	1	.....	5	4	5	.....	1	7	6890	11088	5	2.05	52.1
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.64	727.4	30.06	763.5	1.5	—16.9	80	2	1	1	5	.....	.....	2	.....	17	.....	.....	6	1.66	42.2
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.76	755.9	29.83	757.7	13.1	—10.5	96.4	6	1	2	5	5	1	1	2	5	7023	11302	6	2.58	65.5
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.66	751.8	30.02	762.5	6.6	—14 1	86.2	4	8	8	.....	1	.....	1	5	1	6990	11249	6	1.82	46.2
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.90	734.0	30.05	763.3	2.4	—16.4	70	.....	3	4	10	2	.....	1	2	7	.....	.....	7	1.10	27.9
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.78	756.4	29.88	758.9	21.4	— 5.9	72.4	6	4	10	.....	.....	1	6	1	.....	.....	.....	7	3.91	99.3
CAPE COLONY																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	29.92	760.0	29.92	760.0	71.4	21.9	88.0	.....	.....	5	5	7	3	7	1	.....	.....	.....	3	0.20	5.1
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.83	757.7	.....	.....	76.0	24.4	51.7	2	9	2	....	.....	7	.....	6	2	.....	.....	3	3.00	77.7
Springbok	S. 29 45	E. 17 43	1.11 p.m.	?	?	27.88	708.1	.....	.....	80.2	26.8	47.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.15	3.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
CHILIAN.	o /	° /																									
Coquimbo	S. 29 56	W. 71 21	7.15 a.m.	72	22	29.86	758.5	29.90	759.4	65.7	18.7	91	3	3	.....	5	3	4	3	7	.....	.....	.....	6	.....	.....
Iquique. *a*	S. 20 12	W. 70 11	7.19 a.m.	26	8	29.89	759.1	29.85	758 3	68.0	20.0	80	1	3	2	9	9	.....	2	.....	1	.....	.....	2	.....	.....
Niebla	S 39 53	W. 73 25	7.06 a.m.	98	30	29.52	749.7	29.61	752.0	57.7	14.3	80	.....	4	1	.....	.....	.....	23	.....	.....	.....	.....	3	4.22	107.2
Punta Caldera	S 27 03	W. 70 53	7.16 a.m.	82	25	29.88	758.9	29.91	759.8	66.2	19.0	84	3	1	.....	5	.....	6	3	10	...	.....	.....	5	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.04 a.m.	174	53	29.89	759.1	30.06	763.6	.....	.....	.....	2	1	7	7	6	4	.....	1	.....	.....	.....	5	5.89	149.5
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.74	755.3	29.91	759.6	63.1	17.3	72	2	2	5	3	14	2	.....	.....	.....	.....	.....	4	1.68	42.6
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	82	25	29.82	757.4	29.87	758 8	63.7	17.6	84	3	1	1	3	14	.....	2	4	.....	.....	.....	5	0.09	2.4
CHINESE.																											
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	30.03	762.7	30.09	764.3	55.1	12.8	80.3	7	2	.....	.....	2	.....	12	4	1	.....	.....	9	2.70	68.6
Sub-Series.																											
Zi-Ka-Wei	N. 31 12	E.121 26	8.06 p.m.	23	7	30.31	770.5	30.32	770.1	35.1	1.7	77.8	7	1	1	.....	1	4	2	12	.....	.....	.....	7	1.67	42.5
Sung-Chu-Chwang. *a*	N. 37 59	E.102 48	6.51 p.m.	4921	1500	.....	.....	.....	.....	23.4	— 4.8	.....	2	8	.....	.....	.....	.....	.....	17	.....	.....	.....	7	.....	.....
DANISH.																											
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.80	756 8	29.87	758.8	36.3	2.4	88	1	2	1	1	13	6	2	2	.....	.....	.....	9	.....	.....
Fanöe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.74	755.4	29.79	756.7	36.5	2.5	91	2	1	1	6	12	5	1	.....	.....	.....	.....	9	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.64	752.8	29.72	755.0	19.8	— 6.8	86	.....	.....	.....	.....	.....	.....	.....	25	3	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.22	742.2	29.28	743.8	37.8	3.2	79	6	.....	4	4	4	2	2	4	2	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.63	752.6	29.76	755.8	37.0	2.8	92	1	2	.....	3	8	11	.....	2	1	.....	.....	8	.....	.....
Egyptian.																											
Cairo	N. 30 03	E. 31 21	2.05 p.m.	?	?	29.93	760.3	.....	.....	66.4	19.1	.....	5	5	6	8	1	.....	.....	3	.....	.....	.....	4	0.37	9.3
FRENCH.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.37	746.0	30.02	762.5	51.4	10.8	81.2	.....	6	4	.....	5	12	.....	1	.....	.....	.....	6	2.75	69.9
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.30	744.1	29.86	758.4	46.4	8.0	80.9	.....	1	.....	10	15	1	1	.....	.....	.....	.....	5	3.54	90.0
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.58	751 4	29.87	758.6	47.5	8.6	79.9	1	2	4	1	6	7	4	3	.....	.....	.....	6	2.57	65.3
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.93	760.2	30.01	762.2	55.2	12.9	61.2	9	2	3	1	5	4	1	3	.....	.....	.....	4	1.27	32.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.37	746.0	29.94	760 5	48.0	8.9	80.0	.....	3	.....	7	11	6	1	.....	.....	.....	.....	8	2.92	74.3
Beauvais. *b*	N. 49 26	E. 2 05	0.08 p.m.	246	75	.....	.....	.....	.....	48.2	9.0	83.6	2	7	3	11	1	.....	.....	2	.....	.....	.....	5	1.69	42.9
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	28.98	736.2	29.93	760.3	50.9	10.5	69.0	13	.....	.....	2	2	.....	2	9	.....	.....	.....	6	5.25	133.3
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.67	753.6	29.94	760 4	55.0	12.8	73.2	1	5	3	4	1	13	.....	1	.....	.....	.....	7	2.58	65.6
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.37	746.0	29.92	760.0	52.2	11.2	70.6	.....	2	2	4	11	2	6	1	.....	.....	.....	8	2.42	61.5
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.56	750.9	29.82	757.3	50.0	10.0	85.4	1	.....	5	8	12	.....	1	1	.....	.....	.....	8	3.83	97.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.74	755 4	29.83	757 6	49.6	9.8	89.3	10	1	3	1	1	.....	3	9	.....	.....	.....	.....	1.80	45.8
Châlons sur Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.53	750.0	29.91	759.8	47.1	8.4	74.2	.....	1	.....	1	18	5	.....	2	1	.....	.....	6	2.82	71.6
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.58	726 0	29.94	760.5	52.3	11.3	59.2	.....	2	3	5	10	3	3	2	.....	.....	.....	7	1.26	31.9
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.11	739.4	29.98	761.4	50.2	10.1	71.0	1	1	10	5	6	1	.....	1	3	.....	.....	7	2.26	57.4
Comimercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.05	737.9	29.96	760.9	45.7	7.6	81.9	.....	.....	11	5	5	3	2	2	.....	.....	.....	6	4.92	124.9
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.34	694.3	30.04	763.0	45.5	7.5	61.6	1	.....	.....	.....	1	.....	.....	24	.....	.....	.....	5	5.92	150.3
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.87	733.2	30.00	762.0	53.6	12.0	61.4	4	10	.....	1	2	4	6	1	...	.....	.....	5	1.95	49.6
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.31	744.5	30.09	764.2	50.0	10.0	70.0	1	3	.....	1	3	4	7	4	5	.....	.....	6	2.67	67.8
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.31	719.0	29.91	759.7	47.8	8.8	79.1	2	2	1	16	4	...	1	2	...	.....	.....	7	1.26	46.1
Lambalie	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.52	749 9	29.81	757.2	50.2	10.1	81.9	.....	.....	4	12	8	1	2	1	.....	.....	.....	5	3.24	82.3
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.38	746 2	29.96	760.9	60.1	15.6	54.7	1	2	9	3	4	2	5	2	.....	.....	.....	4	3.61	91.8
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.73	755.2	29.84	758.0	50.7	10.4	79.0	.....	.....	5	5	11	5	.....	2	.....	.....	.....	6	3.78	95.9
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.92	734.6	29.99	761 8	48.4	9.1	71.9	1	4	2	1	9	4	6	1	.....	.....	.....	7	1.72	43.8
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.57	751.0	29.83	759.2	47.8	8.8	80.0	....	3	3	11	6	3	2	.....	.....	.....	.....	6	2.85	72.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.67	753.6	29.99	761.8	56.3	13.5	60.8	1	7	7	2	2	7	2	.....	.....	.....	.....	6	1.10	27.9
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.82	630.3	29.65?	753.1?	43.3	6.3	54.9	1	2	8	14	.....	.....	.....	3	.....	.....	.....	4	1.16	29.5
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.83	757.7	29.96	761.0	55.6	13.1	70.0	6	6	2	2	.....	7	1	4	.....	.....	.....	5	1.05	26.6
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.77	603.7	.....	.....	.....	.....	.....	7	3	.....	.....	1	8	1	.....	.....	.....	.....	4	6.55	166.4
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.14	740.1	29.95	760.6	46.4	8.0	78.5	3	.....	5	4	8	7	.....	1	.....	.....	.....	.....	3.41	86.7
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.74	755.3	29.90	759 4	51.6	10.9	76.0	.....	1	4	11	8	1	2	1	.....	.....	.....	8	4.92	125.1
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.32	744.8	.....	.....	52.9	11.6	72.0	1	.....	.....	.....	1	.....	1	1	24	.....	.....	.....	2 54	64.4
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.89	759.1	29.99	761.8	57.2	14.0	64.1	3	6	2	1	2	7	2	5	.....	.....	.....	6	0.66	16.7
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.11	536.1	.....	.....	27.7	— 2.4	.....	.....	3	10	6	.....	.....	.....	.....	9	.....	.....	6	3.31	84.1
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.93	734.9	29.96	761.0	51.6	10.9	68.5	8	3	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	4.09	104.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.02	635.5	.....	.....	35.1	1.7	82.2	6	2	2	11	4	1	.....	2	.....	.....	.....	7	3.03	76.9
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.88	758.9	29.91	759.7	53.6	12.0	77.1	.....	.....	5	5	7	4	2	5	.....	.....	.....	7	3.32	59.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.68	753.8	29.88	759 0	51.1	10.6	77.9	1	.....	4	13	1	1	5	3	.....	.....	.....	6	5.35	136.0
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.82	705.7	30.00	762.0	48.6	9.2	71.7	5	4	.....	1	2	3	7	4	2	.....	.....	.....	2.58	65.4
Rouen	N. 49 26	E: 1 05	0.04 p.m.	39	12	29.80	756.8	29.85	758.3	49.1	9.5	78.9	1	4	3	1	6	7	2	2	.....	.....	.....	6	2.07	52.5
Saint Lô	N. 49 06	W. 1 05	11.56 a.m.	135	41	29.73	755 2	.....	.....	48.7	9.3	.....	2	1	5	12	.....	2	2	4	.....	.....	.....	7	0.59	15.0
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.72	755.0	29.89	759.3	48.9	9.4	70.6	1	.....	3	8	13	1	.....	2	.....	.....	.....	7	1.07	42.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.28	743.7	30.00	762 0	54.9	12.7	74.5	2	5	3	.....	1	13	2	2	.....	.....	.....	6	2.23	56.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.71	754.7	29.91	759.6	51.3	10.7	74.2	1	.....	3	3	10	7	.....	4	.....	.....	.....	.....	3.13	79.4
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.41	747.1	29.87	758.7	48.2	9.0	70.0	.....	2	11	8	2	2	3	.....	.....	.....	.....	7	1.78	45.3
Sub-Series.																											
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.82	757.3	29.97	761.1	58.3	14.6	60.0	.....	1	9	6	5	2	5	.....	.....	.....	.....	6	3.81	96.7
GERMAN.																											
Ansbach	N. 45 18	E. 10 36	0.42 p.m.	1358	414	28.49	723.7	29.98	761.5	41.7	5.4	72.4	.....	.....	3	7	4	3	.....	1	10	.....	.....	5	1.57	40.0
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.06	738.2	29.92	759.9	41.4	5.2	73.7	.....	2	1	4	4	5	2	1	9	.....	.....	6	1.90	48.3
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.77	756.2	29.94	760 4	41.5	5.3	71.0	.....	1	5	5	11	3	2	1	.....	.....	.....	6	0.69	17.6
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.49	749 0	30.04	762.9	40.3	4.6	67.6	1	2	4	2	8	9	.....	2	.....	.....	.....	6	3.56	90.4
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.49	749.0	29.97	761.1	46.4	8.0	73.5	.....	1	1	17	2	2	1	4	.....	.....	.....	8	5.00	126.9
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.15	740.5	29.89	759.1	42.6	5.9	76.7	1	3	.....	4	17	.....	2	1	.....	.....	.....	7	1.30	33.1
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.50	750.7	30.00	762 0	43.5	6.4	71.6	2	1	5	7	3	5	3	.....	2	.....	.....	8	2.22	56.4
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.54	724.9	30.00	762.0	42.1	5.6	81.4	.....	1	8	11	2	1	1	4	.....	.....	.....	7	3.92	99.5
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.77	756.2	29.88	759.0	40.3	4.6	84.4	2	.....	.....	11	6	6	.....	3	.....	.....	.....	8	1.82	46.1
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.81	757.2	29.85	758.2	39.9	4.4	82.4	1	.....	3	10	7	4	1	1	1	.....	.....	8	2.28	57.8
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.50	749.3	29.92	760.0	40.8	4.9	82.9	.....	3	1	1	10	5	2	1	.....	.....	.....	6	1.30	32.9
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.71	754.6	29.92	760.0	42.3	5.7	78.0	3	1	1	4	4	14	.....	1	.....	.....	.....	7	0.85	21.5
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.97	761.3	30.05	763.3	33.4	0.8	87.9	2	2	.....	3	12	5	.....	4	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.11	714.0	29.98	761.4	42.6	5.9	66.7	3	3	2	4	...	2	6	6	2	.....	.....	5	0.86	21.9
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.95	760.8	30.02	762.4	37.6	3.1	83.8	2	.....	2	1	16	5	2	.....	.....	.....	.....	8	0.45	11.4
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.41	746.9	29.94	760.5	45.1	7.3	79.0	3	.....	10	4	6	.....	.....	.....	5	.....	.....	8	2.38	60.4
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.05	737.8	29.97	761 1	47.8	8.8	69.5	.....	5	4	9	.....	2	.....	8	.....	.....	.....	7	2.00	50.7
Wustrow	N. 54.21	E. 12 24	0.50 p.m.	23	7	29 85	758.2	29.89	759.3	38.3	3.5	84.1	2	.....	.....	4	7	13	1	1	.....	.....	.....	8	0.80	20.2
GREEK.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	361	110	29.64	752.8	30.00	762.1	55.0	12.8	80.8	7	2	2	3	3	2	.....	9	.....	.....	.....	6	2.63	66.7
INDIAN.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.92	760.0	29.92	760.0	73.8	23.2	43	.....	.....	12	13	1	1	1	.....	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.46	748.3	29.88	758 9	79.2	26.2	13	10	7	3	2	1	1	.....	3	1	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.88	758.9	29.85	758.2	75.9	24.4	61	7	20	1	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.01	711.4	29.77	756.1	84.8	29.3	14	1	12	9	5	.....	.....	.....	.....	.....	.....	.....	3	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.32	693.9	29.76	755.9	80.8	27.1	34	2	1	18	0	.....	.....	1	.....	.....	.....	.....	1	0	0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	732	223	29.24	742 7	29.95	760.7	63.6	17.6	36	2	7	9	.....	.....	.....	2	1	7	.....	.....	2	0.46	21.7
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.02	737.1	29.91	759.7	65.4	18.6	46	.....	.....	18	.....	.....	2	1	.....	7	.....	.....	2	0.28	7.1
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.38	746.2	29.91	759.7	71.0	21.7	32	.....	5	16	.....	1	2	.....	4	.....	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.83	732 3	29.81	757.2	81.4	27.4	31	5	1	3	6	1	.....	.....	2	10	.....	.....	2	0.57	14.5
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.54	724.9	29.85	758.2	73.7	23.2	31	6	3	2	.....	.....	1	.....	7	9	.....	.....	2	0.27	6.9
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.58	751.3	29.92	760.0	65.8	18.8	32	4	6	3	2	.....	.....	1	2	10	.....	.....	3	0	0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.62	752.3	29.89	759 2	69.0	20.6	49	2	7	2	2	.....	.....	1	1	13	.....	.....	3	0	0
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.74	755.4	29.88	758.9	69.9	21.1	44	3	10	8	.....	.....	1	....	1	5	.....	.....	3	0.01	0.3
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.88	708.1	29.87	758.7	67.7	19.8	37	8	9	8	1	.....	.....	.....	.....	2	.....	.....	3	1.20	30.5
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.84	757.9	29.86	758.4	78.1	25.6	63	1	1	.....	1	4	5	5	4	7	.....	.....	4	2.28	57.9

RESULT OF SIMULTANEOUS OBSERVATIONS FOR FEBRUARY, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Mill.
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.															
INDIAN—Cont'd.	° ′	° ′																								
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.91	759.7	29.87	758.7	71.9	22.2	63	4	3	2	4	3	3	4	3	2	.....	.....	3	2.02	51.3
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.80	756.9	29.88	758.9	68.8	20.4	42	.....	1	3	2	.....	.....	1	1	20	.....	.....	1	0.03	0.8
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.86	758.4	29.89	759.2	70.9	21.6	67	1	3	11	2	.....	.....	1	.....	10	.....	.....	3	1.09	27.7
Sibsagar	N. 26.59	E. 94 40	6.19 p.m.	333	101	29.64	752.8	29.94	760.5	60.7	15.9	83	.....	.....	.....	2	.....	1	.....	24	1	.....	.....	5	1.77	45.0
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.49	723.6	29.92	760.0	69.8	21.0	33	6	10	5	5	1	.....	...	1	.....	.....	.....	3	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.36	720.3	.....	.....	91.1	32.8	23	.....	1	6	5	4	2	10	.....	.....	.....	.....	3	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.63	752.6	29.83	757.7	87.6	30.9	44	.....	.....	.....	.....	.....	2	21	5	.....	.....	.....	3	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.58	751.4	30.00	762.0	48.7	9.3	61	.....	3	1	.....	3	5	5	.....	11	.....	.....	5	3.51	89.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.54	750.3	30.08	763.9	42.6	5.9	82	1	.....	6	11	1	3	4	2	.....	.....	.....	7	4.77	121.1
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.94	760.5	30.05	763 3	46.2	7.9	75	8	7	1	3	.....	1	5	2	1	.....	.....	5	1.64	41.6
Moncalieri	N. 45 00	E. 7 41	0.31 p.m.	846	258	29.13	739.9	30.07	763.7	39.6	4.2	81	6	10	.....	.....	1	5	.....	6	.....	.....	.....	5	1.62	41.1
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.82	757.4	30.01	762.3	52.0	11.1	67	4	.....	.....	5	4	4	1	9	1	.....	.....	5	10.26	260.7
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	30.00	761.9	30.04	763.1	46.4	8.0	79	9	14	.....	2	.....	2	.....	1	.....	.....	.....	6	1.60	40.7
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.75	755.7	30.01	762.3	51.3	10.7	63	7	7	5	1	.....	.....	2	6	.....	.....	.....	7	1.91	48.6
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.83	757.7	30.00	761.9	56.1	13.4	58	8	1	2	4	8	1	1	.....	3	.....	.....	5	2.60	66.0
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.74	755.5	29.99	761.8	55.4	13.0	66	10	2	1	2	5	3	2	3	.....	.....	.....	5	1.41	35.7
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.12	739.0	30.01	762 3	53.2	11.8	72	.....	9	6	5	.....	6	2	.....	.....	.....	.....	5	2.96	75.3
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.80	756.9	30.04	763.0	59.7	15.4	56	3	6	1	5	.....	.....	6	6	1	.....	.....	6	2.50	63.5
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.99	761.7	30.01	762 3	57.9	14.4	62	8	.....	4	1	2	1	6	6	.....	.....	.....	6	0.76	19.4
Sub-Series.																										
Naples. *d*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.49	749.0	.....	.....	55.0	12.8	68.3	1	1	2	10	3	1	.....	6	.....	.....	.....	5	2.60	66.0
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.07	560.5	.....	.....	24.6	— 4.1	74.9	.....	.....	1	12	4	3	.....	8	.....	.....	.....	5	3.97	100.8
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.06	560 3	.....	.....	27.9	— 2.3	64.4	3	7	4	5	...	4	1	4	.....	.....	.....	4	7.87	200.0
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.20 p.m.	33	10	29.97	761.3	29.99	761.8	27.5	— 2.5	84.1	5	13	2	.....	.....	2	.....	1	5	.....	.....	8	3.74	95.0
Awomori	N. 40 51	E. 140 45	9.23 p.m.	33	10	29.93	760.1	29.95	760.8	25.9	— 3.4	77.3	..	7	11	2	6	.....	2	.....	.....	.....	.....	7	3.02	76.6
Hakodate	N. 41 46	E. 140 44	9.23 p m.	10	3	29.92	760.0	29.92	760.0	25.7	— 3.5	80.5	11	6	8	.....	.....	.....	1	...	2	11476	18469	7	1.07	27.2
Hamamatsu	N. 34 42	E. 137 43	9.11 p.m.	92	28	29.94	760.4	30.00	762.1	36.0	2.2	63.2	.....	9	14	.....	.....	.....	1	1	3	.....	.....	3	2.02	51.3
Hiroshima	N. 34 23	E. 132 27	8.50 p m.	13	4	30.18	766.5	30.16	766.1	35.2	1.8	74.4	10	3	7	1	.....	.....	3	3	1	3489	5615	4	1.23	31.2
Kago-hima	N. 31 35	E. 130 33	8.42 p.m.	13	4	30.19	766.7	30.16	766.1	40.3	4.6	77.8	14	6	.....	.....	.....	.....	.....	6	2	.....	.....	5	1.68	42.6
Kioto	N. 35 01	E. 135 46	9.03 p.m.	161	49	29.95	760.8	30.10	764.4	32.9	0.5	75.3	3	5	4	2	.....	.....	1	.....	13	02158	03473	0	0.56	14.3
Kochi	N. 33 33	E. 133 34	8.54 p.m.	20	6	30.11	764.9	30.10	764.6	39.9	4.4	63.3	8	6	9	.....	.....	.....	4	1	.....	5934	9549	4	2.13	54.1
Miasaka	N. 31 56	E. 131 26	8.46 p.m.	26	8	30.16	766.0	30.15	765 8	40.1	4.5	74.0	4	1	19	.....	.....	.....	3	1	.....	.....	.....	4	1.10	27.9
Miyako	N. 39 38	E. 141 59	9.28 p.m.	98	30	29.83	757.7	29.93	760.1	28.6	— 1.9	77.7	.....	1	13	5	1	.....	2	.....	6	2114	3402	5	1.90	48.2
Nagasaki	N. 32 44	E. 129 52	8.39 p.m.	190	58	30.01	762.2	30.19	766.8	38.1	3.4	69.8	16	2	.....	1	.....	.....	1	6	2	5929	9542	4	1.48	37.7
Niigata	N. 37 55	E. 139 03	9.16 p.m.	33	10	30.03	762.7	30.04	763.1	31.6	— 0.2	79.2	1	4	13	2	3	3	1	.....	1	6104	9824	9	3.98	101.0
Nobiru	N. 38 23	E. 141 11	9 25 p.m.	16	5	29.95	760.8	29.95	760.7	29.3	— 1.5	80.2	12	12	1	.....	3	.....	...	.....	.....	.....	.....	3	1.08	27.3
Numadzu	N. 35 06	E. 138 51	9.15 p.m.	33	10	29.95	760.7	29.95	760.8	37.2	2.9	68.9	7	.....	2	1	2	.....	16	.....	.....	.....	.....	4	1.28	32.5
Osaka	N. 34 41	E. 135 30	9.02 p.m.	30	9	30.11	764.7	30.11	764.9	35.6	2.0	72.4	13	6	5	2	.....	.....	1	1	.....	8174	13155	5	0.30	7.5
Sakai	N. 35 33	E. 133 14	8.53 p.m.	7	2	30.16	766 1	30.15	765.7	35.8	2.1	75.5	5	3	9	2	2	1	2	4	.....	.....	.....	8	3.70	94.0
Shimonoseki	N. 33 58	E. 130 56	8.44 p.m.	135	41	30.06	763.5	30.18	766 5	37 9	3.3	70.9	1	4	1	3	.....	.....	.....	.....	18	.....	.....	5	1.15	29.3
Tokei	N. 35 41	E. 139 46	9.19 p.m.	69	21	29.93	760.2	29.98	761.4	35.2	1.8	68.6	6	13	3	.....	1	.....	.....	4	1	.....	6518	10490	4	1.06	27.0
Wakayama	N. 34 14	E. 135 09	9.01 p.m.	49	15	30.08	764.1	30.11	764.7	37.0	2.8	67.9	10	7	.....	.....	.....	.....	.....	.....	.....	2	9	2518	4052	5	0.91	23.2
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.65	753.1	29.78	756.4	82.2	27.9	69.7	1	....	2	3	2	2	14	4	.....	.....	.....	7	2.16	54.9
MEXICAN.																										
Leon	N. 21 07	W. 101 36	5.14 a.m.	5902	1799	24.31	617.5	30.07	763 8	46.4	8.0	77	4	17	.....	3	1	.....	.....	1	2	.....	.....	4	0	0
Mazatlan	N. 23 12	W. 106 17	4.55 a.m.	349	76	29.70	754.4	29.92	760.0	64.9	18.3	79	.....	6	.....	.....	.....	2	5	15	.....	.....	.....	3	0.04	1.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.06	585.7	30.12	765.0	46.1	7.8	68	1	1	.....	1	1	.....	.....	1	23	.....	.....	3	0	0
Pabellon *a*	N. 22 04	W. 102 04	5.12 a m.	6312	1924	23.91	607.3	29.94	760 5	46.3	7.9	61	4	4	2	1	.....	.....	.....	1	15	.....	.....	3	0	0
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.41	594.6	30.24	768.1	46.3	7.9	62	1	3	.....	.....	.....	1	2	.....	21	.....	.....	3	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.81	757.2	29.83	757.7	45.3	7.4	.....	.....	1	.....	10	15	.....	.....	2	.....	.....	.....	.....	2.35	59.7
Groningen. *a*	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.75	755.6	29.82	757.5	41.5	5.3	.....	1	1	3	11	7	1	1	1	1	.....	.....	.....	2.33	59.1
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.77	756.1	29.79	756.6	42.1	5.6	.....	2	.....	2	4	19	.....	.....	1	.....	.....	.....	.....	2.71	68.9
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.80	756.9	29.82	757 4	45.0	7.2	.....	.....	.....	3	12	10	1	1	1	.....	.....	.....	.....	2.05	52.1
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.77	756.1	29.84	757.8	40.6	8.1	.....	1	.....	1	11	12	1	.....	2	.....	.....	.....	6	2.16	54.9
Sub-Series.																										
Batavia	S. 6 11	E. 106 50	7.07 p.m.	26	8	.....	.....	29.82	757 4	77.5	25.3	87.8	7	11	7	2	1	.....	...	.....	.....	.....	.....	8	16.87	428.4
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.46	748.3	29.56	750.9	39.4	4.1	76.2	1	.....	2	2	21	1	1	.....	.....	.....	.....	8	10.81	274.6
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.46	748.3	29.55	750.6	35.1	1.7	66.4	.....	.....	.....	2	8	8	.....	2	.....	.....	.....	7	1.80	45.6
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.59	751.6	29.78	756.5	32.0	0.0	84.5	.....	.....	1	8	6	3	6	3	1	.....	.....	8	2.52	64.0
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.55	750.6	29.03	752.7	26.4	— 3.1	.....	.....	1	2	3	6	8	2	....	6	.....	.....	6	1.13	28.8
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.02	762.6	30.08	764.0	63.0	17.2	75.3	....	.....	4	11	4	5	4	....	.....	.....	.....	5	8.06	204.6
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.72	755.0	30.05	763.2	56.8	13.8	77.1	3	3	2	6	5	4	3	2	..	.....	.....	7	6.13	155.7
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	29.83	757.7	29.88	759 0	60.3	15.7	81.4	3	1	8	10	4	1	.....	.....	1	.....	.....	6	4.74	120.5
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	33	10	30.02	762.6	30.00	761.9	72.1	22.3	70.8	3	.....	.....	.....	1	.....	5	19	.....	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.03	711.9	29.76	756.0	83.8	28.8	54.9	1	2	9	3	7	2	.....	.....	4	.....	.....	7	3.19	81.0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.22	640.7	30.02	762.4	40.3	4.6	83.5	3	3	9	3	2	3	5	...	.....	.....	.....	7	32.41	823.3
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	29.18	741.1	30.42	772.7	— 2.7	—19.3	75.2	1	2	4	6	7	3	1	3	1	.....	.....	4	0.10	2.6
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.97	761.1	30.04	762.9	16.5	— 8.6	81.8	1	.....	.....	7	7	3	7	2	1	.....	.....	8	0.74	18.7
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.48	774.2	30.40	772.2	32.2	0.1	65.9	3	.....	.....	.....	1	8	13	.....	3	.....	.....	4	0	0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.35	770.8	30.29	769.3	43.3	6.3	83.5	5	1	.....	1	7	3	2	1	8	.....	.....	4	0.28	7.0
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.94	760.4	30.52	775.3	— 1.1	—18.4	75.1	1	.....	1	10	.....	.....	.....	1	15	.....	.....	7	0.84	21.4
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.77	756.2	30.06	763.5	27.0	— 2.8	90.9	.....	1	1	5	12	3	1	3	2	.....	.....	9	2.06	52.2
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.32	744.8	30.39	772.0	18.0	— 7.8	73.8	2	2	9	5	1	3	1	.....	5	.....	.....	7	0.23	5.9
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.74	755.3	30.22	767.7	29.7	— 1.3	80.6	2	1	1	3	3	6	11	1	.....	.....	.....	10	0.33	8.4
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.15	765.9	30.33	770 4	19.2	— 7.1	69.8	3	.....	3	2	1	2	5	12	.....	.....	.....	4	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	30.10	764.5	30.43	772.8	17.2	— 8.2	86.4	1	.....	4	9	5	5	2	.....	2	.....	.....	8	0.11	2.7
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.87	758.7	29.97	761.3	19.6	— 6.9	82.2	.....	2	3	11	.....	4	1	3	4	.....	.....	8	0.71	18.0
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.14	765.6	30.17	766.2	38.7	3.7	78.4 *h*	...	1	2	.....	4	1	8	1	11	.....	.....	7	0.42	10.6
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.48	748.8	30.17	766.4	27.7	— 2.4	88.9	3	2	.....	3	8	4	4	4	.....	.....	.....	9	1.16	29.5
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.78	756.5	30.35	770.8	21.7	— 5.7	90.6	1	.....	1	6	7	6	3	1	3	.....	.....	7	1.41	35.7
Igov	N. 51 41	E. 35 17	2.21 p m.	535?	163?	29.68	753.8	30.32	770.1	27.0	— 2.8	80.9	.. ...	1	2	3	4	7	9	.....	2	.....	.....	7	0.83	21.1
Liban	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.96	760.9	30.01	762.3	33.6	0.9	84.6	.....	2	.....	4	10	7	3	2	.....	.....	.....	8	1.44	36.7
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	30.06	763.6	30.29	769.4	29.5	— 1.4	77.8	1	.....	.....	1	5	3	13	5	.....	.....	.....	8	0.78	19.8
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.73	755.2	30.28	769.1	23.0	— 5.0	83.4	1	.....	.....	6	14	3	2	.....	2	.....	.....	6	0.94	23.9
Nerchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.98	710.6	30.63	778.0	—11.0	—23.9	71 4	1	1	1	.....	.....	.....	.....	.....	.....	25	.....	2	0.10	2.6
Nikolajev	N. 46 58	E. 31 58	2.08 p.m.	62	19	30.10	764.4	30.17	766.2	33.1	0.6	88.5	4	.....	.....	4	4	2	5	4	5	.....	.....	9	0.63	16.0
Nikolaievsk	N. 53 08	E. 140 45	9.23 p.m.	59	18	30.10	764.4	30.20	767.1	3.2	—16.0	78.4	.....	1	11	.....	.....	2	.....	1	8	.....	.....	4	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.81	757.2	30.33	770.3	21.3	— 4.3	75.3	1	.....	.....	10	4	8	.....	1	4	.....	.....	9	1.17	29.8
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	30.01	762.3	30.37	771.5	30.4	— 0.9	61.2	9	1	2	.....	.....	.....	.....	1	15	.....	.....	5	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.80	756.9	30.05	763.3	21.4	— 5.9	78.1	2	5	2	9	3	3	3	1	.....	.....	.....	8	2.45	62.2
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.61	752.0	30.15	765.7	31.8	... 0.1	80.1	1	2	1	1	6	9	4	1	3	.....	.....	8	0.45	11.5
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.09	764.3	30.11	764.9	52.5	11.4	83.5	.....	5	2	1	1	1	16	.....	2	.....	.....	4	0.53	13.5
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	30.02	762.4	30.08	764.0	24.6	— 4.1	82.7	1	3	1	3	12	3	3	2	.....	.....	.....	8	1.65	41.9
Samarkand	N. 39.39	E. 66 57	4.28 p.m.	2379?	725?	27.74	704.5	30.29	769.4	37.4	3.0	67.3	.....	.....	.....	.....	1	4	.....	.....	23	.....	.....	6	.....	.....
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.79	756.6	30.56	776.1	— 4.2	—20.1	86.3	.....	.....	3	2	1	.....	14	.....	8	.....	.....	4	0.30	7.7
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.88	758.8	30.10	764.4	42.3	5.7	73.6	11	2	2	3	2	.....	1	7	.....	.....	.....	6	0.37	9.5
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.57	751.1	30.18	766.5	28.6	— 1.9	81.9	3	.....	.....	.....	5	14	3	3	.....	.....	.....	9	1.15	29.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1885.																		Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
Russian—Con.	° ′	° ′																								
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.59	726.1	30.33	770.3	35.8	2.1	68.6	7	7	.....	.....	1	.....	.....	6	7	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.80	731.5	30.24	768.1	46.6	8.1	49.9	1	1	.....	1	2	20	2	.....	1	.....	.....	5	0.20	5.0
Viatka, *b*	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.62	752.4	30.34	770.7	17.4	— 8.1	90.0	.....	.....	8	4	7	1	.....	.....	6	.....	.....	7	0.76	19.3
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.61	752.0	30.07	763.7	35.1	1.7	79.4	1	2	1	4	8	9	.....	2	1	.....	.....	7	0.52	13.3
Yeniseisk	N. 58 27	E. 92 06	6 08 p.m.	262?	80?	30.21	767.2	30.56	776.3	2.3	—16.5	74.4	.....	2	1	3	2	2	2	1	15	.....	.....	6	0.63	15.9
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.60	751 8	30.17	766.3	23.8	— 4.6	75.3	.....	1	2	4	10	6	2	1	2	.....	.....	5	0.94	23.9
Spanish.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.87	7 8 8	30.03	762.7	56.7	13.7	80	1	4	8	5	3	2	3	2	.....	.....	.....	5	0.24	6.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.89	759.1	29.95	760.6	67.8	19.9	71	.....	9	1	3	9	4	1	.....	1	2788	4487	6	1.94	49.3
Burgos	N. 42 20	W. 3 46	11.15 a.m.	2822	860	27.06	687.2	30.04	762.9	49.5	9.7	72	3	.....	6	10	7	1	.....	1	.....	8844	14233	6	4.17	106.0
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.82	706 5	30.05	763.3	51.0	12.2	72	.....	..	3	13	4	4	2	2	.....	7000	11266	6	2.38	60.5
Murcia, ...	N. 37 59	W. 1 10	11.55 a.m.	141	43	29.92	759.9	30.01	762.3	57.7	14.3	70	.....	4	2	9	4	1	.....	8	.....	.....	.....	7	0.89	22.7
Oviedo	N. 43 23	W. 5 49	11.37 a.m.	801	244	29.13	740.0	29.89	759.3	50.9	10.5	79	1	.....	3	3	4	15	2	.....	.....	.....	.....	5	1.44	36.5
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	28.99	736.4	29.92	759.9	54.1	12.3	84	.....	2	2	14	6	.....	.....	1	3	6232	12030	8	15.04	383.0
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.97	761.3	29.99	761.7	67.8	19.9	84.2	5	.....	2	.....	3	9	5	2	2	.....	.....	3	6.00	152.3
Manilla	N. 14 35	E.120 57	8.04 p.m.	52	16	29.95	760.7	29.93	760.3	75.9	24.4	74.8	.....	.....	.....	1	.....	14	13	.....	...	5237	8428	2	0	0
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.04	763.0	30.12	765.0	60.6	15.9	77.5	2	2	5	2	6	1	6	1	3	.....	.....	6	4.45	113 0
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.59	761 8	30.02	762.6	74.3	23.5	88	.....	.....	.....	3	8	16	1	.....	.....	.....	.....	5	1.20	30.6
Swedish.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.74	755.3	29.83	757.6	19.9	— 6.7	96	5	.....	1	6	10	3	2	1	.....	.....	.....	8	2.54	64.5
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.74	755.4	29.84	757.9	25.3	— 3.7	88	.....	1	.....	18	2	.....	.....	5	2	.....	.....	8	1.77	44.9
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.71	754.6	29.80	757.0	27.1	— 2.7	87	3	.....	.....	.....	16	1	.....	1	7	.....	.....	7	1.38	35.0
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.67	753.6	29.88	759.0	31.6	— 0.2	85	4	1	.....	2	13	2	.....	.....	6	.....	.....	9	0.90	22.9
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.82	757.5	29.91	759.8	34.9	1.6	87	1	2	5	8	3	5	2	2	.....	.....	.....	6	1.50	38.0
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.73	755.2	29.85	758.2	30.2	— 1.0	88.5	3	.....	2	5	12	4	1	1	.....	.....	.....	9	1.49	37.8
Swiss.																										
Geneva	N. 46 12	E. 6 08	0.25 p m.	1339	408	28.56	725.4	30.01	762.2	45.9	7.7	69.5	13	2	2	2	7	1	1	.....	.....	.....	.....	6	3.24	82.4
Turkish.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.10	764.5	44.4	6.9	75	11	.....	.....	4	1	1	2	9	.....	.....	.....	8	2.68	68.0
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.06	763.6	59.7	15.4	.....	1	9	.....	6	1	8	1	2	.....	.....	.....	4	1.26	32.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.99	761.8	62.6	17.0	65.4	4	3	.....	16	.....	1	.....	4	.....	.....	.....	7	4.08	103.5
United States.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.80	756.9	29.87	758.7	14.8	— 9.6	73.7	6	8	6	1	.....	1	2	4	...	8053	12960	5	2.95	74.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.88	758.9	29.92	760.0	14.9	— 9.5	68.7	3	9	10	.....	1	.....	.....	3	2	5785	9310	4	3.08	93.5
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.27	591.0	29.89	759.2	— 0.5	—18.1	90.5	1	11	7	2	2	2	.....	2	1	22615	36394	3	1.87	47.5
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.81	757.2	29.95	760.7	16.3	— 8.7	69.7	2	9	12	2	.....	1	1	.....	.....	9244	14876	5	3.00	76.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.93	760.2	29.95	760.7	22.1	— 5.5	77.8	7	8	.....	1	1	3	1	6	1	11923	19188	4	3.68	93.5
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.94	760.5	29.98	761.5	18.9	— 7.3	74.9	2	6	13	.....	1	.....	2	4	.....	6141	9883	4	4.03	102.4
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.87	758.7	29.98	761.5	15.9	— 8.9	82.9	9	4	4	1	.....	.....	.....	7	3	6391	10285	5	3.15	80.0
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.93	760.2	30.02	762.5	10.4	—12.0	77.2	8	6	.....	2	3	1	2	5	1	4491	7227	6	1.38	35.1
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.81	757.2	29.98	761.5	20.0	— 6.7	78.5	3	9	6	.....	.....	.....	2	8	...	8605	13848	5	6.09	154.7
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.88	758.9	30.00	762.0	20.3	— 6.5	70.8	5	11	1	.....	.....	.....	1	8	2	7038	11326	5	2.79	70.9
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.97	761.2	29.99	761 7	23.0	— 5.0	77.5	5	8	3	2	.....	1	5	4	.....	13719	22078	6	4.54	115.3
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.96	761.0	29.96	761.0	23.4	— 4.8	85.5	6	8	2	2	.....	1	2	7	.....	6421	10333	7	2.00	50.8
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	29.96	761.0	29.97	761.2	24.6	— 4.1	79.8	7	11	.....	3	.....	2	3	2	.....	11714	18851	7	1.47	37.3
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	29.96	761.0	29.97	761.2	27.6	— 2.4	76.6	4	12	2	3	.....	.....	2	5	.....	12403	19960	7	3.71	94.2
Del. Breakwater	N. 38 48	W. 75 10	6.59 a.m.	20	6	29.97	761.2	29.98	761.5	26.8	— 2.9	77.0	5	13	1	3	.....	.....	2	4	.....	12207	19645	7	1.91	48.5
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.99	761.7	30.04	763.0	25.2	— 3.8	69.7	5	8	4	.....	2	...	4	5	.....	4439	7144	6	4.40	111.8
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.93	760.2	30.03	762.7	22.8	— 5.1	83.1	5	9	2	2	1	2	4	1	4732	7615	6	4.03	117.6
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.98	761.5	29.97	761 2	29.3	— 1.5	87.3	6	13	1	2	3	.....	2	1	.....	9112	14664	7	2.00	50.8
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.98	761.5	29.98	761.5	33.9	1.1	74.9	12	4	1	6	2	1	1	1	.....	9379	15094	6	3.73	94.7
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.30	744.2	30.00	762.0	26.8	— 2.9	74.4	.....	7	4	4	3	.....	1	3	6	2911	4685	5	3.49	88 6
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.99	761.7	30.00	762.0	33.9	1.1	78.1	14	2	4	4	1	1	.....	2	.....	5579	8978	6	3.79	96.3
S Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	.9	3	29.99	761.7	29.98	761.5	36.9	2.7	80.2	10	6	3	5	.....	1	.....	3	.....	11135	17920	6	6.17	156.7
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.98	761.5	29.97	761.2	40.2	4.6	83.2	8	6	5	3	1	.....	.....	5	.....	9210	14822	5	4.50	114.3
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.00	762.0	29.98	761.5	38.9	3.8	81.2	6	5	3	4	2	.....	1	6	1	10060	16190	5	2.99	75.9
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.00	762.0	30.01	762.2	39.2	4.0	74.2	8	6	7	1	1	.....	.....	5	.....	7110	11442	5	1.70	43.2
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	29.98	761.5	30.01	762.2	40.6	4.8	72.5	2	9	5	3	.....	1	.....	8	.....	5189	8351	6	2.52	64.0
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.18	741.2	30.07	763.8	32.9	0.5	77.4	4	4	2	7	.....	1	2	4	4	3868	4616	5	4.54	115.3
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.98	761.5	30.00	762.0	42.8	6.0	82.1	4	2	9	7	.....	.....	.....	7	....	5692	9160	5	3.64	92.5
Augusta, *d*	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.91	759 7	30.07	763.8	35.7	2.1	82.2	3	3	9	1	2	1	.....	5	4	3270	5262	5	3.24	82.3
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.98	761.5	30.04	763.0	43.7	6.5	73.1	5	8	5	5	1	.....	.....	4	.....	5385	8666	5	3.11	79.0
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.02	762.5	30.03	762 7	48.7	9.3	83.7	2	8	3	3	3	.....	.....	4	5	4818	7754	5	5.23	132.8
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.05	763.3	30.03	762.7	50.8	10.4	79.8	10	5	.....	1	3	3	2	3	1	6233	10031	4	9.02	229 1
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.03	762.7	30.00	762.0	66.5	19.2	83.3	4	.....	.....	5	2	4	2	11	.....	8708	14014	6	4.07	103.4
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.06	763.5	30.09	764.3	53.2	11.8	83.4	13	3	3	2	3	1	1	2	.....	4538	7303	6	3.96	100.6
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.87	733.3	30.06	763 5	33.9	1.1	71.5	.....	11	4	4	2	3	1	3	.....	7621	12265	4	4.14	105.2
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.07	763 8	30.06	763 5	44.6	7 0	76.6	10	3	3	2	2	.....	1	5	2	5809	9348	5	3.20	81.3
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.06	763.5	30.06	763.5	42.8	6.0	84.6	10	1	.....	4	1	3	.....	6	3	5576	8974	6	2.85	72.4
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.87	758.7	30.08	764.0	38.7	3.7	81.0	9	3	2	1	3	2	2	4	*a*4617	*a*7430	5	3.68	93.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	244	74	29.84	757.9	30.07	763.8	40.7	4.0	78.4	1	3	1	5	5	3	2	7	1	4547	7318	6	3.93	99.8
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.02	762.5	30.04	763.0	48.5	9.2	75.8	7	1	1	3	1	3	3	6	3	5801	9336	4	2.39	60.7
West Gulf states.																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.85	758.2	30.07	763.8	38.5	3.6	77.0	7	4	3	.....	6	1	3	3	1	5068	8156	6	3.31	84.1
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.59	751.6	30.09	764 3	28.1	— 2.2	81.8	2	3	6	3	1	2	3	5	3	4294	6910	5	1.69	42.9
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.76	755.9	30.05	763.3	35.8	2.1	83.7	5	3	2	4	2	1	3	4	4	4681	7533	6	2.43	61.7
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.03	762.7	30.03	762.7	49.4	9.7	85.5	7	2	3	2	3	1	2	7	1	8672	13956	5	2.04	51.8
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.03	762.7	30.02	762.5	47.9	8.8	87 9	11	1	1	3	4	1	1	5	1	11501	18509	5	1.69	42.9
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.55	750.6	30.09	764 3	38.4	3.6	76.4	5	6	.....	3	6	.....	1	7	.....	7654	12318	5	3.02	76.7
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.97	761 2	29.98	761.5	52.4	11.3	90.9	11	3	1	1	8	.....	.....	2	2	5741	9239	6	2.52	64.0
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.86	758.4	30.02	762.5	49.2	9.6	82.8	9	4	1	.....	2	5	2	2	3	3827	6159	5	1.12	28.4
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.25	742.9	30.08	764 0	32.1	0.1	80.9	4	7	2	7	2	3	.....	3	.....	4834	7779	5	3.50	88.9
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.02	737.1	30.07	763.8	27.8	— 2.3	81.0	8	2	6	4	.....	.....	4	2	2	4708	7577	5	2.97	75.4
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.73	755.1	30.06	763.5	33.7	0.9	77.3	2	7	3	4	1	3	1	5	2	4530	7290	6	1.88	47.8
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.48	748.8	30.06	763 5	28.1	— 2.2	82.8	5	5	4	3	1	3	4	3	.....	5149	8286	7	2.00	50.8
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.48	748.8	30.07	763.8	25.2	— 3.8	78.3	5	1	4	3	5	2	1	1	6	5055	8135	6	2.89	73.2
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.06	738.1	30.04	763.0	14.8	— 9.6	86.5	4	3	3	4	3	5	3	3	.....	5640	9076	6	2.01	51.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.20	741.7	30.04	763 0	15.4	— 9.2	90.1	3	1	3	8	1	2	2	4	4	3424	5510	6	1.54	39.1
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	612	187	29.38	746.2	30.07	763.8	17.4	— 8.1	81.9	3	4	3	5	4	1	2	2	4	3863	6217	5	2.67	67.8
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.15	740.4	30.05	763.3	14.2	— 9.9	86.9	2	5	7	6	3	2	3	.....	.....	5702	9176	6	2.39	60.7
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.17	740.9	30.02	762.5	19.6	— 6.9	85.3	3	6	8	3	2	.....	2	1	3	4768	7673	8	1.90	48.3
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.29	744.0	29.99	761 7	10.2	—12.1	82.3	1	1	10	9	1	5	.....	1	.....	9157	14736	7	1.54	39.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for February, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. S.—Continued.																											
Low'r lakereg.—Con	° ′	° ′																									
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.22	742 2	30.01	762.2	10.1	—12.2	86.4	.....	.....	5	10	5	1	3	3	1	7772	12508	6	1.57	39.9
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.60	751.8	29.98	761.5	8.6	—13.0	91.7	2	4	2	4	5	9	2	.....	.....	8856	14252	8	1.22	31.0
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	30.01	762.2	14.9	— 9.5	78.7	1	2	8	8	3	2	1	3	.....	6513	10481	7	2.10	53.3
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.34	745.2	30.04	763.0	13.7	—10.2	75.3	2	6	3	10	1	3	2	1	.....	8351	13439	5	0.83	21.1
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.25	742.9	30.03	762.7	12.4	—10.9	88.8	1	3	6	6	4	4	.....	4	.....	6711	10800	6	1.05	26.7
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.30	744 2	30.03	762.7	12.4	—10.9	75.4	3	3	6	8	5	1	1	1	.....	5609	9027	6	0.61	15.5
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.28	743 7	30.03	762.7	11.3	—11.5	66.3	4	.....	5	9	5	.....	.....	5	.....	6547	10536	4	1.26	32.0
Upper lakeregion.																											
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.26	743 2	29.97	761.2	2.0	—16.7	75.1	.....	10	10	2	2	3	.....	.....	1	5844	9405	7	1.63	41.4
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.28	743.7	30.00	762 0	—1.7	—18.7	74.5	8	6	5	2	5	.....	1	.....	1	5261	8467	6	0.93	23.6
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.28	743.7	29.98	761.5	11.4	—11.4	80.6	5	3	2	6	1	4	3	3	1	7054	11352	8	1.57	39.9
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.29	744 0	29.99	761.7	3.0	—16.1	78.1	1	2	8	4	2	3	3	1	4	5266	8475	8	3.59	91.2
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.29	744.0	30.01	762.2	4.9	—15.1	83.4	1	3	3	8	5	1	2	1	4	4792	7712	5	3.39	86.1
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.28	743.7	30.02	762.5	12.4	—10.9	78.8	3	2	5	8	3	1	2	1	3	4934	7940	5	2.01	51.1
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.22	742 2	30.01	762 2	4.9	—15.1	86.6	3	7	9	1	4	.....	.....	.....	1	3	6706	10792	6	0.49	12.4
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.27	743 4	30.07	763.8	—2.2	—19.0	77.8	5	2	6	4	3	.....	.....	2	6	3713	5975	5	0.32	8.1
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.13	739 9	30.06	763.5	3.6	—15.8	67.5	.....	7	4	2	4	2	1	.....	8	3658	5935	4	0.20	5.1
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.23	742.4	30.04	763 0	4.4	—15.3	75.2	6	4	4	1	12	1	.....	.....	.....	4321	6954	6	0.28	7.1
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.36	745.7	30.05	763.3	11.8	—11.2	74.9	4	5	7	3	.....	3	2	4	.....	5438	8752	4	1.20	30.5
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.14	740.1	30.09	764 3	10.0	—12.2	72.4	10	3	3	1	.....	1	3	.....	7	3881	6246	5	0.42	10.7
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.32	744.7	30.06	763 5	6.8	—14.0	65.5	3	6	2	2	2	2	.....	.....	11	2526	4065	4	0.72	18.3
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.38	746.2	30.07	763.8	10.6	—11.9	80.9	0	4	6	5	1	2	3	1	.. ..	5594	9002	3	1.14	29.0
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.69	754.1	30.07	763.8	27.0	— 2.8	71.5	5	5	3	6	3	3	.....	2	1	6411	10317	6	1.48	37.6
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.37	746 0	30.06	763.5	16.5	— 8.6	68.9	5	2	7	3	2	2	3	2	2	5562	8951	5	0.91	23.9
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.44	747.8	30.06	763.5	23.4	— 4.8	75.9	2	3	8	2	2	4	4	2	1	6338	10200	5	0.87	22.1
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.18	741.2	30.12	765 0	15.7	— 9.1	87.0	6	6	.....	.....	7	....	3	3	3	3972	6392	5	0.87	22.1
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.88	733 5	30.11	764.8	11.8	—11.2	78.6	9	6	1	4	2	2	1	1	2	5884	9469	4	0.47	11.9
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.46	722.9	30.19	766.8	6.2	—14.3	80.6	3	9	.....	1	.....	4	2	2	7	4219	6790	6	0.21	5.3
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.63	727.2	30.15	765.8	1.5	—16.9	71.1	4	10	1	2	5	.....	.....	1	5	4486	7219	4	0.22	5.6
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.74	730.0	30.16	766.1	8.1	—13.3	78.8	5	6	3	.....	3	1	.....	3	7	4322	6955	4	0.43	10.9
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.02	737.1	30.12	765.0	—4.2	—20.1	74.6	8	5	3	5	6	.....	.....	.....	1	5975	9616	3	0.08	2.0
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.15	740 4	30.13	765.3	-11.5	—24.2	90.4	2	10	3	2	7	3	.....	.....	1	5951	9577	3	0.10	2.5
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.17	715.5	30.15	765.8	—1.5	—18.6	87.2	3	13	2	1	.....	1	2	1	5	4969	7997	3	0 36	9.1
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.95	709.9	30.17	766.3	0.1	—17.7	77.6	2	4	9	3	.....	1	2	4	3	6463	10401	5	0.44	11.2
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.35	720 1	30.11	764.8	—7.0	—21.7	73.5	1	9	3	4	1	2	.....	2	6	7967	12854	3	0.25	6.3
Northern slope.																											
Fort Assiniaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.11	688.6	30.17	766.3	13.1	—10.5	78.6	1	2	.....	12	1	.....	3	3	6	6676	10744	8	0.78	19.8
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.17	690 1	30.17	766.3	17.8	— 7.9	67.5	.....	.....	.....	11	.....	.....	.....	6	11	5134	8262	7	0.60	15.2
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26 78	680.2	30.14	765 5	17.7	— 7.9	78.8	5	3	8	3	.....	3	1	3	2	4803	7730	5	0.16	4.1
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.48	647.2	30.23	767.8	17.8	— 7.9	55.4	.....	8	8	3	.....	.....	3	6	.....	10410	16753	7	1.04	26.4
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.28	667.5	30.14	765.5	19.5	— 6.9	72.9	.....	8	10	7	.....	.....	2	1	.....	7511	12088	6	0.78	19.8
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.74	653.8	30.10	764.5	24.9	— 3.9	71.5	2	6	18	1	.....	.....	.....	.....	1	3004	5800	6	0.82	20.8
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.85	707 4	30.21	767.3	—6.5	—21 4	94.0	.....	2	12	.....	.....	1	5	1	7	2952	4751	5	0.64	16.3
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.23	640.8	30.15	765.8	18.6	— 7.4	77.2	.....	.....	4	11	1	1	2	6	3	2451	3944	5	2.88	73.2
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.86	606.0	30.12	765.0	20.2	— 6.6	77.5	5	13	2	2	3	.....	.....	3	.....	9325	15007	4	1.31	33.3
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.04	686.8	30.12	765.0	15.2	— 9.3	77.9	4	2	11	.....	.....	2	3	.....	6	4313	6941	5	0.16	4.1
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.48	444.0	30.14	765.5	—1.1	—18.4	82.5	5	11	6	3	.....	.....	.....	2	1	11611	18686	4	3.91	99.3
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.62	625.3	30.13	765.3	26.9	— 2.8	69.2	6	4	4	1	9	1	1	2	.....	6090	9785	3	0.75	19.0
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	25.96	659.4	30.06	763.5	18.3	— 7.6	88.5	.....	3	10	2	.....	1	7	3	2	4536	7300	4	0.32	8.1
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.38	695 4	30.08	764.0	19.0	— 7.2	83.7	4	5	7	3	3	1	.....	5	.....	7233	11640	3	0.47	11.9
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.21	691.1	30.09	764.3	26.1	— 3.3	81.5	5	5	5	1	3	2	2	1	4	6716	10808	3	0.87	22.1
Southern slope.																											
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28 84	732.5	30.12	765 0	27.7	— 2.4	91.4	9	.....	.....	4	8	3	1	3	.....	7476	12031	4	1.10	27.9
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28 12	714.2	30.11	764.8	34.2	1.2	82.5	5	2	6	1	4	.....	4	4	2	6645	10694	3	0.41	10.4
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	26.99	685 5	30.09	764.3	37.1	2.8	70.1	1	1	3	4	5	2	2	3	7	5759	9268	2	0.91	23.1
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.12	638.0	30.04	763.0	37.8	3.2	60.7	2	3	2	11	2	.....	1	5	2	5597	9007	2	0.28	7.1
Southern plateau.																											
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.17	588.5	30.17	766.3	25.7	— 3.5	64.5	5	2	.....	2	3	1	2	12	1	5749	9252	3	0.53	13.5
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.26	692.4	30.06	763.5	31.6	— 0.2	68.5	2	.....	11	4	4	6	1	.....	.....	.....	.....	2	1.00	25.4
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25 02	635.5	30.09	764.3	27.2	— 2.7	81.7	2	.....	1	1	.....	1	6	13	4	3764	6057	2	1.00	25.4
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.21	640.3	30.04	763.0	36.3	2.4	64 0	6	2	1	1	.....	10	4	4	.....	4748	7641	1	1.02	25.9
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.71	627.6	30.10	764.5	29.4	— 1.4	77.9	.....	1	.....	1	4	2	.....	1	19	3730	6003	1	0.46	11.7
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	20.23	666.2	30.08	764.0	39.2	4.0	53.1	1	2	15	5	.....	2	.....	3	.....	3022	5829	2	0.03	0.8
Middle plateau.																											
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25 64	651.2	30.19	766 8	33.1	0.6	72.1	1	4	1	1	4	3	6	.....	8	2378	3827	8	1.56	39.6
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.69	652 5	30.22	767.6	34.9	1.6	70.3	.....	2	1	15	2	2	1	4	1	5310	8546	4	1.41	35.8
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.19	614.4	30.19	766.8	23.0	— 5.0	86.4	3	6	1	2	2	3	2	3	1	3058	4921	6	0.22	5.6
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.24	691.9	30.20	767 1	34.8	1.6	87.0	.....	10	4	.....	1	4	4	.....	5	2614	4207	7	2.29	58.2
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.26	743.2	30.09	764.3	35.8	2.1	81.2	.....	6	.....	.....	.....	1	.....	.....	21	1051	1691	6	2.88	73.2
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.98	710.7	30.12	765.0	32.2	0.1	88.6	1	3	3	10	2	3	1	.....	5	3717	5982	7	2.27	57.7
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.30	718.8	30.12	765.0	39.4	4.1	81.3	.....	.....	.....	14	4	.....	3	2	5	4837	7784	6	3.74	95.0
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.88	758 9	30.08	764.0	44.7	7.1	93.0	5	1	7	.....	9	4	2	.....	.....	10235	16471	6	11.20	284.5
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.01	762.2	30.06	763.5	42.8	6.0	92.2	.....	.....	2	1	12	.....	.....	.....	13	2215	3565	7	7.67	194 8
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.00	762.0	.....	.....	38.4	3.6	92.5	.....	.....	3	5	3	3	3	.....	11	.....	.....	8	3.64	92.5
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.90	759.4	30.00	762.0	44.4	6.9	85.9	.....	5	2	0	4	4	7	.....	.....	10549	16977	9	13.28	337.3
Portland,	N. 45 32	W. 122 43	3.49 a.m	67	20	30.02	762.5	30.09	764.3	44.4	6.9	87.2	3	2	1	4	8	1	.....	.....	9	2177	3504	8	6.72	170.7
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.60	751.8	30.17	766.3	44.5	6.9	91.3	.....	.....	.....	3	8	1	3	2	11	1323	2129	8	5.28	134.1
Mid Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.46	748.3	30.14	765.5	46.5	8.1	84.7	11	6	.....	.....	3	6	2	.....	.....	16404	26399	6	1.37	34.8
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.80	756.9	30.15	765.8	46.8	8.2	83.8	16	9	.....	.....	2	.....	.....	1	.....	4148	6670	3	1.19	30.2
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.06	763.5	30.11	764.8	49.0	9.4	83.3	2	11	1	1	4	6	1	2	.....	4851	7807	2	0.49	12.4
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.08	764.0	30.13	765 3	51.8	11.0	88.2	2	3	6	6	2	6	.....	2	1	4336	6978	5	0.30	7.6
S. Pac. coast reg'n.																											
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.68	753 9	30.01	762.5	48.2	9.0	75.4	2	.....	.....	.....	.....	.....	6	18	2	3768	6064	3	0.01	0.3
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.97	761.2	30.01	762.2	49.3	9.6	83.6	8	1	1	.....	1	.....	1	16	.....	3462	5571	3	0.02	0.5
Alaska stations.																											
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.90	759 4	29.98	761.5	-16.1	—26.7	78.2	7	2	.....	5	4	1	2	1	6	5621	9046	3	0.31	7.9
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.58	751.3	29.68	753.9	35.7	2.1	80.8	.....	3	1	.....	.....	12	5	1	6	7467	12017	8	9.86	250.4
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.07	753.6	29.71	754.6	27.0	— 2.8	79.5	4	0	2	5	4	3	1	1	2	7026	11307	8	4.42	112.3
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.86	758.4	29.91	759.7	25.2	— 3.8	95.9	.....	.....	.....	.....	.....	1	8	18	1	10329	16623	8	0.39	9.9
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.97	761.2	29.92	760.0	72.3	22.4	88.2	14	11	.....	.....	.....	1	.....	2	.....	.....	.....	5	1.60	40.6
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.98	761.5	71.3	21.8	87.7	14	.....	.....	.....	.....	2	2	.....	10	2525	4064	1	0.01	0.3
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	77.9	25.5	87.0	1	.....	.....	.....	.....	.....	22	5	.....	.....	.....	6	5.09	129.3
Puerto Berrio	N. 6 22	W. 74 28	7.02 a.m.	542	165	.....	.....	.....	.....	78.0	25.6	80.0	8	.....	.....	.....	.....	.....	1	.....	16	.....	.....	3	1.28	32.5
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.6	23.7	77.0	.....	.....	.....	.....	.....	.....	13	15	.....	.....	.....	1	0	0

OCEAN SQUARE DATA FOR FEBRUARY, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.91	759.7	74.9	23.8	8	.....	.....	.....	.....	.....	5	15	.....	.....	4.7
12.5 27.5	29.98	761.5	75.6	24.2	3	.....	.....	.....	.....	.....	6	19	.....	.....	5.0
12.5 32.5	29.99	761.7	76.4	24.7	2	.....	.....	.....	.....	.....	16	9	.....	1	4.5
12.5 37.5	30.00	762.0	77.0	25.0	.....	.....	.....	.....	.....	.....	22	6	.....	.....	4.0
12.5 42.5	30.00	762.0	77.2	25.1	.....	.....	.....	.....	.....	.....	25	3	.....	.....	3.9
12.5 47.5	29.99	761.7	77.1	25.1	.....	.....	.....	.....	.....	1	22	5	.....	.....	3.8
12.5 52.5	29.99	761.7	77.9	25.5	1	.....	.....	.....	.....	1	23	3	.....	.....	3.9
17.5 22.5	29.97	761.2	71.6	22.0	5	2	.....	.....	.....	.....	6	15	.....	.....	4.8
17.5 27.5	30.02	762.5	72.3	22.4	5	3	.....	.....	.....	.....	12	8	.....	.....	4.8
17.5 32.5	30.05	763.3	74.1	23.4	5	2	.....	.....	.....	.....	13	7	.....	1	4.3
17.5 37.5	30.06	763.5	75.0	23.9	3	1	.....	.....	.....	1	15	8	.....	.....	3.9
17.5 42.5	30.05	763.3	75.3	24.1	5	.....	.....	.....	.....	4	16	3	.....	.....	3.6
17.5 47.5	30.05	763.3	75.6	24.2	2	.....	.....	.....	2	7	11	6	.....	.....	3.5
17.5 52.5	30.03	762.7	76.0	24.4	2	.....	.....	.....	2	5	14	5	.....	.....	3.5
17.5 57.5	30.03	762.7	78.6	25.9	2	.....	.....	1	.....	3	19	3	.....	.....	3.6
22.5 22.5	30.03	762.7	68.8	20.4	4	2	4	.....	.....	.....	9	9	.....	.....	4.4
22.5 27.5	30.05	763.3	69.8	21.0	1	7	1	.....	.....	2	14	3	.....	.....	4.2
22.5 32.5	30.08	764.0	71.4	21.9	2	8	.....	.....	1	5	10	2	.....	.....	3.6
22.5 37.5	30.11	764.8	72.4	22.4	6	5	.....	.....	.....	10	6	.....	1	.....	3.5
22.5 42.5	30.10	764.5	72.8	22.7	4	3	1	.....	6	6	5	2	.....	1	3.8
22.5 47.5	30.08	764.0	73.4	23.0	7	2	.....	2	6	5	.....	5	.....	1	3.7
22.5 52.5	30.07	763.8	73.5	23.1	6	1	.....	3	5	3	4	5	.....	1	3.5
22.5 57.5	30.07	763.8	73.7	23.2	5	.....	2	1	6	3	5	4	.....	2	3.1
22.5 62.5	30.05	763.3	73.8	23.2	3	.....	1	5	6	3	3	4	3	.....	3.1
22.5 67.5	30.04	763.0	74.1	23.4	.....	3	1	1	6	9	4	3	1	.....	3.4
22.5 72.5	30.03	762.7	73.4	23.0	3	1	.....	3	3	5	5	1	5	2	3.1
27.5 22.5	30.05	763.3	66.1	18.9	3	2	5	4	.....	2	8	4	.....	.....	3.6
27.5 27.5	30.06	763.5	67.1	19.5	.....	4	6	2	.....	3	8	2	1	.....	3.5
27.5 32.5	30.08	764.0	67.8	19.9	1	9	3	1	7	6	1	.....	.....	.....	3.8
27.5 37.5	30.10	764.5	68.9	20.5	3	8	1	6	7	3	.....	.....	.....	.....	3.9
27.5 42.5	30.08	764.0	69.4	20.8	3	7	3	6	5	2	.....	.....	.....	2	4.3
27.5 47.5	30.07	763.8	69.7	20.9	2	8	7	4	4	1	1	.....	.....	1	4.4
27.5 52.5	30.05	763.3	69.8	21.0	3	5	6	5	5	1	.....	2	.....	1	4.2
27.5 57.5	30.04	763.0	69.5	20.8	5	5	7	7	1	.....	1	1	.....	1	3.9
27.5 62.5	30.02	762.5	69.3	20.7	4	5	8	9	.....	.....	2	.....	.....	.....	4.2
27.5 67.5	30.02	762.5	69.4	20.8	3	6	7	5	.....	3	.....	4	.....	.....	4.0
27.5 72.5	30.01	762.2	68.5	20.3	3	3	6	3	4	2	3	2	1	1	4.2
27.5 77.5	30.02	762.5	65.1	18.4	9	3	4	1	4	2	3	2	.....	.....	3.6
32.5 12.5	30.08	764.0	62.9	17.2	2	.....	4	7	2	2	8	3	.....	.....	2.9
32.5 17.5	30.08	764.0	63.2	17.3	2	.....	9	6	3	7	.....	1	.....	.....	2.9
32.5 22.5	30.03	762.7	64.0	17.8	3	.....	7	9	2	7	.....	.....	.....	.....	3.8
32.5 27.5	30.00	762.0	64.6	18.1	1	4	11	4	6	2	.....	.....	.....	.....	4.3
32.5 32.5	29.99	761.7	64.9	18.3	1	6	8	6	7	.....	.....	.....	.....	.....	4.2
32.5 37.5	29.99	761.7	64.7	18.2	1	8	9	7	3	.....	.....	.....	.....	.....	5.1
32.5 42.5	29.99	761.7	64.3	17.9	2	9	9	6	2	.....	.....	.....	.....	.....	5.1
32.5 47.5	29.98	761.5	64.5	18.1	1	7	9	9	.....	1	.....	.....	.....	1	5.2
32.5 52.5	29.95	760.7	64.5	18.1	1	7	9	7	3	1	.....	.....	.....	.....	5.0
32.5 57.5	29.93	760.2	64.0	17.8	1	8	8	10	.....	.....	.....	1	.....	.....	5.2
32.5 62.5	29.93	760.2	62.7	17.1	3	4	12	6	2	.....	1	.....	.....	.....	4.4
32.5 67.5	29.94	760.5	61.6	16.4	3	11	8	1	4	1	.....	.....	.....	.....	5.3
32.5 72.5	29.96	761.0	58.1	14.5	6	6	6	4	1	1	.....	2	2	.....	5.1
32.5 77.5	30.00	762.0	49.5	9.7	8	5	7	.....	2	.....	3	3	.....	.....	4.6
37.5 12.5	30.03	762.7	58.5	14.7	1	3	5	12	3	.....	.....	2	2	.....	3.9
37.5 17.5	29.97	761.2	59.2	15.1	.....	2	6	15	4	1	.....	.....	.....	.....	4.5
37.5 22.5	29.91	759.7	59.9	15.5	1	3	10	9	5	.....	.....	.....	.....	.....	4.5
37.5 27.5	29.86	758.4	60.9	16.1	2	3	7	12	2	1	.....	.....	1	.....	4.5
37.5 32.5	29.83	757.7	60.8	16.0	2	5	6	13	1	.....	1	.....	.....	.....	5.4
37.5 37.5	29.83	757.7	59.4	15.2	2	6	10	10	.....	.....	.....	.....	.....	.....	5.2
37.5 42.5	29.82	757.4	57.9	14.4	2	8	8	9	1	.....	.....	.....	.....	.....	5.6
37.5 47.5	29.80	756.9	56.3	13.5	1	10	7	7	1	1	.....	.....	.....	1	5.8
37.5 52.5	29.81	757.2	56.1	13.4	2	8	8	6	4	.....	.....	.....	.....	.....	6.0
37.5 57.5	29.78	756.4	54.7	12.6	4	10	4	5	3	1	.....	1	.....	.....	5.9
37.5 62.5	29.81	757.2	51.5	10.8	4	12	6	1	3	1	1	.....	.....	.....	6.2
37.5 67.5	29.88	758.9	48.6	9.2	3	11	2	4	.....	2	3	3	.....	.....	6.2
37.5 72.5	29.93	760.2	40.6	4.8	7	9	1	3	1	3	.....	4	.....	.....	6.0
42.5 12.5	29.86	758.4	55.0	12.8	1	.....	8	14	4	.....	.....	.....	1	.....	5.1
42.5 17.5	29.78	756.4	56.1	13.4	1	1	9	11	3	2	.....	1	.....	.....	5.9
42.5 22.5	29.73	755.1	55.6	13.1	1	4	6	10	2	1	2	2	.....	.....	5.6
42.5 27.5	29.71	754.6	56.0	13.3	.....	1	7	11	.....	1	4	3	.....	1	5.4
42.5 32.5	29.66	753.4	55.1	12.8	3	3	4	12	2	1	2	1	.....	.....	5.7
42.5 37.5	29.64	752.8	52.8	11.6	5	6	5	8	1	1	1	1	.....	.....	6.1
42.5 42.5	29.66	753.4	47.6	8.7	5	7	5	7	1	.....	2	.....	.....	1	5.9
42.5 47.5	29.68	753.9	41.1	5.1	2	10	3	2	3	2	2	3	.....	1	5.5
42.5 52.5	29.68	753.9	39.3	4.1	4	6	5	3	4	2	3	.....	.....	.....	6.4
42.5 57.5	29.72	754.9	38.0	3.3	5	11	2	.....	2	3	1	3	.....	1	6.4
42.5 62.5	29.81	757.2	30.9	— 0.6	4	8	3	.....	3	3	1	6	.....	.....	5.6
42.5 67.5	29.87	758.7	25.8	— 3.4	6	11	.....	3	.....	3	2	3	.....	.....	4.6
47.5 12.5	29.66	753.4	52.2	11.2	.....	.....	8	15	.....	2	1	2	.....	.....	5.9
47.5 17.5	29.60	751.8	51.9	11.1	1	5	4	13	.....	1	.....	4	.....	.....	5.6
47.5 22.5	29.56	750.8	50.7	10.4	1	6	3	10	2	1	1	4	.....	.....	6.0
47.5 27.5	29.53	750.0	49.6	9.8	.....	6	5	10	.....	1	2	4	.....	.....	5.5
47.5 32.5	29.51	749.5	48.5	9.2	1	5	5	4	4	1	4	2	.....	2	6.1
47.5 37.5	29.47	748.5	45.6	7.6	3	5	4	2	3	5	3	2	.....	1	5.8
47.5 42.5	29.53	750.0	39.9	4.4	4	9	3	2	4	2	3	1	.....	.....	5.8
47.5 47.5	29.59	751.6	32.9	0.5	6	7	3	2	4	.....	.....	4	.....	2	5.4
52.5 12.5	29.50	749.3	46.8	8.2	.....	3	9	8	2	1	2	2	.....	1	5.2
52.5 17.5	29.46	748.3	46.2	7.9	.....	3	2	4	13	.....	1	.....	5	.....	6.0
52.5 22.5	29.43	747.5	44.7	7.1	1	8	1	5	3	3	.....	6	.....	1	5.5
52.5 27.5	29.45	748.0	43.3	6.3	4	5	2	3	1	2	4	6	.....	1	5.4
52.5 32.5	.....	.....	41.8	5.4	5	1	1	.....	3	2	3	6	.....	7	6.3
52.5 37.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
52.5 42.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
52.5 47.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 12.5	29.39	746.5	41.1	5.1	6	1	4	6	2	.....	2	7	.....	.....	5.3
57.5 17.5	29.40	746.7	39.2	4.0	6	2	3	2	1	.....	3	8	.....	3	5.5
57.5 22.5	29.50	749.3	.....	.....	3	.....	.....	.....	.....	3	.....	15	.....	7	6.4
57.5 27.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 32.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 37.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 42.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 47.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

RETARDED DATA.—JACOBSHAVN, GREENLAND (N. 69° 13′, W. 50° 55′).

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the Air. Fah.	Temperature of the Air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metres per sec.	Wind. Force 0-10	Clouds. Amount. Upper. 0-10	Clouds. Amount. Lower. 0-10	Clouds. Direction. Upper. From.	Clouds. Direction. Lower. From.	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1884.																		
September 1	29.99	761.8	30.04	763.0	34.2	1.2		calm			0		0					
2	29.87	758.8	29.92	760.c	34.5	1.4		calm			0		0					
3	29.55	750.6	29.60	751.8	34.2	1.2		n.			4		0					
4	29.68	753.9	29.73	755.1	33.8	1.0		calm			0		4					
5	29.71	754.6	29.76	755.8	32.4	0.2		calm			0		5					
6	29.85	758.1	29.89	759.3	29.8	— 1.2		e.			4		0					
7	29.67	753.7	29.72	754.9	28.6	— 1.9		e.			4		0					
8					28.0	— 2.2		e.			4		0					
9																		
10																		
11																		
12																		
13																		
14	29.52	749.9	29.57	751.1	17.6	— 8.0		n.			6		2					
15	29.37	746.0	29.42	747.2	26.6	— 3.0		s.			4		10					snowing.
16	29.65	753.1	29.70	754.3	26.6	— 3.0		calm			0		3					
17	29.32	741.8	29.37	746.0	30.4	— 0.9		sw.			4		5					
18	29.55	750.5	29.60	751.7	36.3	2.4		se.			2		4					
19	29.48	748.8	29.53	750.0	41.0	5.0		se.			b		3					
20	29.51	749.6	29.56	750.8	29.1	— 1.6		s.			4		8					snowing.
21	29.68	753.8	29.72	755.0	28.4	— 2.0		calm			0		4					
22	29.59	751.6	29.64	752.8	28.4	— 2.0		calm			0		2					
23	29.56	750.9	29.61	752.1	32.0	0.0		s.			2		4					
24	29.36	745.7	29.41	746.9	24.4	— 4.2		ne.			4		7					
25	29.50	749.4	29.55	750.6	28.6	— 1.9		calm			0		5					
26	29.38	746.2	29.43	747.4	20.1	— 6.6		e.			2		4					
27	29.37	745.9	29.41	747.1	23.2	— 4.9		calm			0		7					
28																		
29	29.65	753.1	29.70	754.3	21.9	— 5.6		e.			4		8					
30	29.80	757.0	29.85	758.2	23.7	— 4.6		e.			4		8					
Mean	29.59	751.6	29.64	752.8	28.9	— 1.7							4					
October 1	29.80	756.9	29.85	758.1	19.0	— 7.2		e.			6		2					
2	29.65	753.2	29.70	754.4	16.5	— 8.6		e.			4		4					
3	29.67	753.5	29.71	754.7	14.4	— 9.8		calm			0		0					
4	29.47	748.5	29.52	749.7	15.4	— 9.2		e.			4		0					
5	29.30	744.3	29.35	745.5	9.0	—12.8		e.			4		4					
6	30.20	767.1	30.25	768.3	20.5	— 6.4		e.			2		6					
7	30.34	770.5	30.38	771.7	28.4	— 2.0		e.			6		10					snowing.
8	30.32	770.0	30.36	771.2	31.3	— 0.4		calm			0		3					
9	29.85	758.3	29.90	759.5	37.4	3.0		calm			0		2					
10	29.72	755.0	29.77	756.2	35.2	1.8		calm			0		4					
11	29.78	756.3	29.82	757.5	33.3	0.7		calm			0		5					
12	29.14	740.2	29.19	741.4	31.3	— 0.4		se.			4		7					
13	29.43	747.5	29.48	748.7	24.1	— 4.4		e.			4		5					
14	29.68	753.8	29.72	755.0	27.3	— 2.6		e.			4		10					snowing.
15	29.61	752.2	29.66	753.4	18.7	— 7.4		e.			6		6					
16	29.74	755.4	29.79	756.6	19.8	— 6.8		e.			4		4					
17	29.31	744.5	29.36	745.7	32.0	0.0		se.			4		7					
18	29.10	739.0	29.14	740.2	32.2	0.1		e.			4		4					
19	29.29	743.8	29.33	745.0	22.6	— 5.2		e.			4		7					
20	28.81	731.7	28.85	732.9	28.6	— 1.9		s.			6		6					
21	29.36	745.8	29.41	747.0	24.1	— 4.4		calm			0		7					
22	29.24	742.7	29.29	743.9	24.4	— 4.2		sw.			4		8					
23	29.44	747.8	29.49	749.0	15.6	— 9.1		e.			6		7					
24	29.28	743.7	29.33	744.9	16.9	— 8.4		e.			2		4					
25	29.59	751.6	29.64	752.8	13.3	—10.4		e.			6		2					
26	29.67	753.7	29.72	754.9	13.3	—10.4		e.			4		3					
27	29.85	758.2	29.90	759.4	5.5	—14.7		e.			2		0					
28	29.74	755.4	29.79	756.6	5.5	—14.7		e.			4		5					
29	29.62	752.4	29.67	753.6	9.7	—12.4		e.			6		4					
30	29.60	751.8	29.65	753.0	10.0	—12.2		e.			4		8					snowing.
31	29.49	749.1	29.54	750.3	5.4	—14.8		e.			2		0					
Mean	29.58	751.4	29.63	752.6	20.7	— 6.3							5					
November 1	29.89	759.2	29.94	760.4	3.6	—15.8		e.			6		2					
2	29.97	761.3	30.02	762.5	— 1.5	—18.6		e.			6		0					
3	29.81	757.1	29.85	758.3	— 1.8	—18.8		e.			4		0					
4	29.84	758.0	29.89	759.2	— 2.9	—19.4		e.			4		0					
5	29.90	759.4	29.95	760.6	2.8	—16.2		e.			4		4					
6	29.86	758.5	29.91	759.7	3.9	—15.6		e.			4		3					
7	29.57	751.1	29.62	752.3	— 1.8	—18.8		calm			0		0					
8	29.49	749.0	29.54	750.2	— 4.9	—20.5		e.			2		2					
9	29.31	744.4	29.35	745.6	— 5.4	—20.8		e.			6		6					
10	29.07	738.4	29.12	739.6	— 6.5	—21.4		calm			0		1					
11	28.74	730.1	28.79	731.3	5.7	—14.6		e.			2		8					
12	29.28	743.7	29.33	744.9	5.4	—14.8		e.			2		7					
13	29.55	750.5	29.60	751.7	2.8	—16.2		e.			6		7					
14	29.70	754.3	29.71	755.5	— 0.8	—18.2		e.			4		2					
15	29.72	754.9	29.77	756.1	2.5	—16.4		e.			6		4					
16	29.66	753.3	29.71	754.5	14.7	— 9.6		e.			6		7					
17	29.56	750.8	29.61	752.0	39.9	4.4		se.			9		5					
18	29.70	754.4	29.75	755.6	28.8	— 1.8		e.			4		6					
19	30.09	764.3	30.14	765.5	21.6	— 5.8		ne.			4		4					
20	30.13	765.2	30.17	766.4	26.2	— 3.2		calm			0		8					snowing.
21	30.18	766.6	30.23	767.8	24.1	— 4.4		calm			0		4					
22	29.90	759.5	29.95	760.7	6.4	—14.2		n.			4		1					
23	29.84	757.8	29.88	759.0	26.2	— 3.2		n.			4		4					
24	29.78	756.5	29.83	757.7	21.9	— 5.6		calm			0		2					
25	29.87	758.6	29.91	759.8	18.1	— 7.7		calm			0		1					
26	29.97	761.1	30.01	762.3	11.1	—11.6		calm			0		3					
27	30.24	768.2	30.29	769.4	10.0	—12.2		e.			4		2					
28	29.13	739.9	29.18	741.1	24.4	— 4.2		se.			7		6					
29	29.44	747.8	29.49	749.0	25.3	— 3.7		e.			4		5					
30	29.20	741.6	29.24	742.8	18.1	— 7.7		e.			4		2					
Mean	29.68	753.9	29.73	755.1	10.6	—11.9							4					

JACOBSHAVN—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature. Inch.	Barometer. Corrected for instrumental error and temperature. Mill.	Barometer. Reduced to sea-level. Inch.	Barometer. Reduced to sea-level. Mill.	Temperature of the air. Fah.	Temperature of the air. Cent.	Relative Humidity. Per cent.	Wind. Direction. From.	Wind. Velocity. Miles per hour	Wind. Velocity. Metres per sec.	Wind. Force 0–10	Clouds. Amount. Upper. 0–10	Clouds. Amount. Lower. 0–10	Clouds. Direction. Upper. From.	Clouds. Direction. Lower. From.	Rainfall or melted snow in past 24 hours. Inch.	Rainfall or melted snow in past 24 hours. Mill.	WEATHER.
1884.																		
December 1...	28.85	732.9	28.90	734.1	17.4	— 8.1		e.			4		3					
2...	28.87	733.4	28.92	734.6	14.7	— 9.6		calm			0		6					
3...	28.94	735.1	28.99	736.3	6.8	—14.0		calm			0		2					
4...	29.23	742.5	29.28	743.7	9.7	—12.4		e.			4		7					
5...	29.26	743.3	29.31	744.5	5.0	—15.0		calm			0		0					
6...	29.47	748.6	29.52	749.8	9.7	—12.4		e.			2		6					
7...	29.57	751.0	29.61	752.2	10.0	—12.2		s.			4		9					snowing.
8...	29.70	754.4	29.75	755.6	4.3	—15.4		e.			4		9					
9...	29.55	750.6	29.60	751.8	— 0.8	—18.2		e.			4		5					
10...	29.52	749.9	29.57	751.1	3.2	—16.0		calm			0		5					
11...	29.19	741.4	29.24	742.6	5.4	—14.8		s.			4		10					
12...	29.24	742.7	29.29	743.9	— 2.2	—19.0		e			4		5					
13...	29.27	743.5	29.32	744.7	1.6	—16.9		s.			4		9					
14...	29.40	746.7	29.45	747.9	1.4	—17.0		s.			2		9					snowing.
15...	29.58	751.4	29.63	752.6	2.3	—16.5		s.			2		8					
16...	29.81	757.1	29.85	758.3	3.6	—15.8		calm			0		9					
17...	29.39	746.4	29.43	747.6	14.4	— 9.8		e.			6		2					
18...	29.47	748.6	29.52	749.8	1.0	—17.2		calm			0		9					
19...	29.48	748.8	29.53	750.0	— 5.1	—20.6		s.			4		7					
20...	29.61	752.1	29.66	753.3	— 5.4	—20.8		calm			0		0					
21...	28.35	720.0	28.39	721.2	20.1	— 6.6		sw.			4		9					
22...	29.59	751.6	29.64	752.8	— 2.6	—19.2		e.			4		5					
23...	29.61	752.2	29.66	753.4	4.6	—15.2		e.			2		9					
24...	28.82	732.1	28.87	733.3	23.4	— 4.8		s.			4		3					snowing.
25...	29.56	750.7	29.60	751.9	2.1	—16.6		sw.			6		7					
26...	29.86	758.5	29.91	759.7	3.2	—16.0		e.			4		5					
27...	29.48	748.8	29.53	750.0	— 9.4	—23.0		e.			4		5					
28...	29.78	756.4	29.83	757.6	— 9.6	—23.1		e.			4		3					
29...	29.96	760.9	30.00	762.1	—17.0	—27.2		calm			0		2					
30...	29.56	750.7	29.60	751.9	—13.4	—25.2		s.			4		9					
31...	29.41	746.9	29.45	748.1	— 9.6	—23.1		s.			4		5					
Mean.....	29.40	746.7	29.45	747.9	2.8	—16.2							6					

UPERNAVIK, GREENLAND (N. 72° 47′, W. 56° 08′).

1884.																		
August 1.....	29.77	756.2	29.82	757.4	38.7	3.7		calm			0		3					
2.....	29.99	761.8	30.04	763.0	40.1	4.5		sw.			2		4					
3.....	29.96	760.9	30.00	762.1	39.6	4.2		calm			0		5					
4.....	29.95	760.7	30.00	761.9	44.1	6.7		e.			2		0					
5.....	29.84	758.0	29.89	759.2	46.6	8.1		calm			0		6					
6.....	29.82	757.3	29.86	758.5	47.1	8.4		o.			2		10					
7.....	29.71	754.5	29.75	755.7	44.1	6.7		calm			0		10					
8.....	29.70	754.3	29.74	755.5	43.7	6.5		sw.			6		10					raining.
9.....	29.67	753.7	29.72	754.9	43.0	6.1		e.			2		10					
10.....	29.52	749.7	29.56	750.9	46.8	8.2		e.			2		0					
11.....	29.25	743.0	29.30	744.2	40.1	4.5		sw.			2		10					
12.....	29.59	751.5	29.63	752.7	41.5	5.3		sw.			7		10					
13.....	29.43	747.4	29.47	748.6	41.5	5.3		e.			2		10					
14.....	29.59	751.5	29.63	752.7	39.7	3.7		sw.			6		9					
15.....	29.22	742.1	29.26	743.3	40.5	4.7		w.			2		10					
16.....	29.33	745.0	29.38	746.2	36.5	2.5		calm			0		10					foggy.
17.....	29.38	746.3	29.43	747.5	35.1	1.7		ne.			2		6					
18.....	29.22	742.3	29.27	743.5	38.7	3.7		ne.			2		0					
19	29.38	746.3	29.43	747.5	32.5	0.3		calm			0		10					
20	29.42	747.3	29.47	748.5	36.5	2.5		e.			2		5					
21.....	29.25	742.9	29.30	744.1	33.3	0.7		n.			4		9					
22.....	29.56	750.8	29.61	752.0	34.0	1.1		e.			2		8					
23.....	29.69	754.0	29.73	755.2	32.4	0.2		e.			2		8					
24.....	29.88	758.9	29.93	760.1	34.3	1.3		e.			2		6					
25.....	29.62	752.4	29.67	753.6	32.5	0.3		e.			4		8					
26.....	29.68	753.9	29.73	755.1	34.0	1.1		e.			2		7					
27.....	29.82	757.5	29.87	758.7	33.6	0.9		e.			2		7					
28.....	29.76	755.9	29.81	757.1	35.1	1.7		e.			2		6					
29.....	29.75	755.6	29.80	756.8	36.5	2.5		e.			2		0					
30	29.98	761.6	30.03	762.8	37.2	2.9		ne.			2		6					
31.....	30.11	764.8	30.16	766.0	31.5	— 0.3		e.			2		10					
Mean.....	29.64	752.8	29.69	754.0	38.3	3.5							7					
September 1...	30.04	762.9	30.08	764.1	31.8	— 0.1		e.			2		2					
2...	30.01	762.3	30.06	763.5	30.6	— 0.8		ne.			4		10					
3...	29.63	752.6	29.68	753.8	27.9	— 2.3		calm			0		10					
4...	29.65	753.1	29.70	754.3	31.1	— 0.5		sw.			2		10					
5...	29.71	754.5	29.75	755.7	28.2	— 2.1		w.			2		10					
6...	29.70	754.3	29.74	755.5	28.2	— 2.1		e.			2		2					
7...	29.83	757.6	29.87	758.8	29.3	— 1.5		e.			2		10					
8...	29.58	751.3	29.63	752.5	27.5	— 2.5		e.			2		10					
9...	29.56	750.8	29.61	752.0	26.4	— 3.1		n.			2		2					
10...	29.38	746.3	29.43	747.5	27.5	— 2.5		n.			2		0					
11...	29.41	747.1	29.46	748.3	31.8	— 0.1		sw.			2		9					
12...	29.61	752.0	29.65	753.2	32.4	0.2		sw.			2		10					snowing.
13...	30.08	764.0	30.13	765.2	31.1	— 0.5		sw.			2		10					snowing.
14...	29.68	753.9	29.73	755.1	27.5	— 2.5		calm			0		10					snowing.
15...	29.30	744.1	29.34	745.3	26.1	— 3.3		e.			2		7					
16...	29.60	751.9	29.65	753.1	29.1	— 1.6		e.			2		2					
17...	29.21	741.9	29.26	743.1	32.4	0.2		e.			2		10					
18...	29.68	753.9	29.73	755.1	33.6	0.9		e.			2		2					
19...	29.60	751.8	29.65	753.0	32.0	0.0		e.			2		10					
20...	29.50	749.2	29.54	750.4	37.2	2.9		s.			2		10					
21...	29.69	754.2	29.74	755.4	32.9	0.5		o.			2		10					
22...	29.61	752.2	29.66	753.4	29.3	— 1.5		e.			2		10					
23...	29.53	750.0	29.58	751.2	31.5	— 0.3		calm			0		10					snowing.
24...	29.48	748.8	29.53	750.0	26.1	— 3.3		n.			4		6					
25...	29.56	750.8	29.61	752.0	23.9	— 4.5		e.			2		10					
26...																		
27...																		
28...	29.56	750.9	29.61	752.1	21.0	— 6.1		e.			2		10					snowing.
29...	29.60	751.8	29.65	753.0	21.2	— 6.0		nw.			2		10					snowing.
30...	29.71	754.5	29.75	755.7	26.4	— 3.1		e.			2		10					
Mean	29.63	752.5	29.67	753.7	29.1	— 1.6							8					

REVIEW.

INTERNATIONAL METEOROLOGY FOR FEBRUARY, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of February, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, mean time:

The area of lowest mean pressure in February, 1885, is located to the north and northwest of the British Isles, where the mean pressure ranges from 29.28 (743.7), at Thorshavn, to 29.40 (746.7), in the ocean squares, N. 57° 30′, W. 12° 30′, and N. 57° 30′, W. 17° 30′. The distribution of pressure around the centre is of an entirely typical character. To the east and southeast the thickly-drawn isobars show a steep gradient, the pressure increasing to 29.6 (751.8), at Bergen, 29.89 (759.2), at Copenhagen, and 30.02 (762.5), at Neufahrwasser.

To the southwest of the low centre, on the other hand, the increase of pressure was very gradual; the isobar of 29.7 (754.4), passes over the east coast of Newfoundland, and that of 30.0 (762.0) is within the borders of Cape Hatteras; thus over the whole Atlantic north of N. 30° the pressure is below 30.0 (762.0). Two additional areas of low mean pressure are found in the northern hemisphere, one in British India, represented by the isobar of 29.8 (756.9), and the other indicated by the pressure at Unalaschka and Sitka, which is, approximately, 29.7 (754.4).

The area of highest mean pressure for the month has its centre in Asia and is represented by the isobar of 30.6 (777.2). The highest mean pressure reported is 30.63 (778.0), at Nerchinsk, which was also the station of highest mean pressure during the two preceding months, December, 1884, and January, 1885. The distribution of pressure around this area of high pressure is similar to that around the area of low pressure, the gradients being steep to the eastward, but very gradual to the westward. Thus the pressure over the Japanese Islands ranges from 30.2 (767.1) to 30.0 (762.0), and throughout central Europe, east of E. 20°, the pressure is above 30.00 (762.0).

Two additional areas of high mean pressure are found in the northern hemisphere, one, indicated by the isobar of 30.2 (767.1), in the North American continent, and the other, a small area of high pressure, represented by an isobar of 30.1 (764.5), in the Atlantic between N. 20° and 30°, and W. 30° and 50°. The pressure over the Atlantic south of N. 30°, except near the west coast of northern Africa, exceeds 30.00 (762.0).

Compared with the chart for the preceding month (January, 1885) there has been a decrease of pressure in all parts of the United States, except a small portion of the Pacific coast. This decrease has been greatest in the south Atlantic states, where it varies from .15 to .18 inch; in the middle Atlantic and Gulf States, lower Missouri, central Mississippi, and Ohio valleys, from .10 to .15 inch; and in the Rocky Mountain regions and over the northern border from .01 to .10 inch. In Canada the changes have been slight and unimportant. Over the Atlantic Ocean there has been a very general decrease of pressure, except in the extreme northern portion, where the pressure at Stykkisholm, Iceland, has risen .25 inch. This decrease is greatest along the trough of the low area central at Thorshavn, ranging from .20 to .30 inch between N. 45° and 50°, and W. 20° and 40°. A decided fall in pressure has taken place over the British Isles and Scandinavia, ranging in amount from .20 to .40 inch. In France a decrease of .10 inch has taken place over the northeastern portion, diminishing towards the south and west to a stationary condition; over the Iberian Peninsula slight changes have occurred. Over central and western Europe, east of E. 40°, a decided rise has taken place, due to the extension westward of the high area occupying the continent of Asia. The pressure has fallen over India, where a low area has been developed; in Japan essentially the same distribution is maintained.

Compared with the corresponding month of previous years, the mean atmospheric pressure during February, 1885, in the United States was slightly above the normal in the central Rocky Mountain districts, in northern California, and southern Oregon; in all other districts the mean pressure was below the normal, the deficiencies being greatest on the Atlantic coast, where they vary from .15 to .20 inch. In Canada the mean pressure was below the normal, the deficiency being greatest in the Maritime Provinces, where it amounted to upwards of .10 inch. Over central Europe the monthly mean pressure was about normal in the eastern portion, but in the extreme northwest fell to more than .18 (4.5) below. The only portion of the continent where the pressure exceeded the normal was in eastern Russia. In British India it was very nearly normal.

The following table shows the mean pressure and mean temperature for February, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Feb. mean of 8 (1877-'84) years.	Feb., 1885.	Departure.	Feb. mean of 8 (1877-'84) years.	Feb., 1885.	Departure.
				°	°	°
Algeria	30.15	.....	.....	59.1	.....	.....
Austro-Hungary	30.08	30.06	— 0.02	38.1	40.4	+ 2.3
British Isles	29.90	29.63	— 0.27	43.5	45.0	+ 1.5
Denmark	29.92	29.81	— 0.11	34.8	36.6	+ 1.8
France	30.08	29.93	— 0.15	47.2	51.0	+ 3.8
Germany	30.03	29.95	— 0.08	38.1	41.5	+ 3.4
India *	29.88	29.87	— 0.01	74.8	73.7	— 1.1
Italy	30.06	30.03	— 0.03	50.5	50.7	+ 0.2
Norway	29.79	29.63	— 0.16	32.6	33.2	+ 0.6
Russia	30.05	30.17	+ 0.12	26.3	26.5	+ 0.2
Spain	30.12	29.98	— 0.14	54.8	56.9	+ 2.1
Sweden	29.87	29.85	— 0.02	25.2	28.2	+ 3.0

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Feb. mean of 8 (1877-'84) years.	Feb., 1885.	Departure.	Feb. mean of 8 (1877-'84) years.	Feb., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.16	30.40	+ 0.24	26.5	32.2	+ 5.7
Archangel, Russia	29.82	30.04	+ 0.22	12.8	16.5	+ 3.7
Angra, Azores	.....	.....	.....	.....	.....	.....
Athens, Greece	30.05	30.00	— 0.05	53.3	55.0	+ 1.7
Beirut, Turkey in Asia	30.01	29.99	— 0.02	60.1	62.6	+ 2.5
Barnaul, Siberia, Asia	30.33	30.52	+ 0.19	5.4	— 1.1	+ 4.3
Bridgetown, Barbadoes	29.95	29.96	+ 0.01	80.0	82.7	+ 2.7
Cape Town, Cape of Good Hope†	.....	.....	.....	79.4	76.0	— 3.4
Cagliari, Sardinia, Italy	.....	.....	.....	.....	.....	.....
Ekaterinburg, Russia	30.03	30.39	+ 0.36	11.2	18.0	+ 6.8
Fort Napier, Natal, South Africa*	29.77	29.82	+ 0.05	78.7	82.1	+ 3.4
Freetown, Sierra Leone*	29.74	29.81	+ 0.07	82.2	83.5	+ 1.3
Funchal, Madeira Islands	30.20	30.08	— 0.12	64.1	63.0	— 1.1
Gibraltar	30.15	.....	.....	60.5	60.7	+ 0.2
Godthaab, Greenland	29.55	.....	.....	11.2	.....	.....
Havana, Cuba, W. I	30.04	29.99	— 0.05	70.4	67.8	— 2.6
Malta, Mediterranean Sea	30.05	30.01	— 0.04	58.9	58.5	— 0.4
Mauritius, Indian Ocean	29.88	29.78	— 0.10	81.1	82.2	+ 1.1
Melbourne, New South Wales	29.97	29.91	— 0.06	64.0	62.6	— 1.4
Mexico, Mexico	30.19	30.12	— 0.07	46.7	46.1	— 0.6
Nassau, Bahamas, W. I*	30.11	30.01	— 0.10	71.7	69.6	— 2.1
Nikolaevsk on the Amoor, Asia	.....	.....	.....	— 3.9	3.2	+ 7.1
Paramaribo, D. Guiana, S. A	29.94	29.93	— 0.01	78.4	77.9	— 0.5
Pekin, China	30.34	.....	.....	28.3	.....	.....
Ponta Delgada, Azores	30.18	29.88	— 0.30	59.8	60.3	+ 0.5
Sandwick Manse, Orkney Islands	29.74	29.40	— 0.34	40.6	38.6	— 2.0
San Juan de Puerto Rico, W. I	30.03	30.02	— 0.01	74.4	74.3	— 0.1
Stykkisholm, Iceland	29.48	29.72	+ 0.24	28.6	19.8	— 8.8
Tashkend, Toorkistan, Asia	30 30	30.33	+ 0.03	35.8	35.8	normal.
Thorshavn, Färöe Islands	29.67	29.28	— 0.39	39.7	37.8	— 1.9
Tiflis, Russia	30.12	30.24	+ 0.12	42.0	46.6	+ 4.6
Tokei, Japan*	30.09	29.98	— 0.11	39.2	35.2	— 4.0
Yeniseisk, Siberia, Asia	30.33	30.56	+ 0.23	1.1	2.3	+ 1.2
York Factory, B. A	30.12	.....	.....	—22.8	.....	.....
Zi-Ka-Wei, China	30.28	30.32	+ 0.04	38.3	35.1	— 3.2

† Means for six years only. * Means for seven years only.

In the United States the mean temperature of the air for February, 1885, was below the normal in all districts east of the one hundred and fifth meridian, the departures being greatest in the upper Mississippi and Ohio valleys and the Lake region, where they ranged from 10° Fahr. (5°.6 Cent.) to 15° Fahr. (8°.3 Cent.) below. In the Rocky Mountain districts and on the Pacific coast the month was warmer than the average, the departures ranging from 2° Fahr. (1°.1 Cent.) to 10° Fahr. (5°.6 Cent.) In Canada the mean temperature was below the normal throughout all the provinces. In Europe it was above the normal throughout the continent, with a decrease to normal in portions of the Mediterranean Sea. At Stykkisholm, Iceland, northwest of the low area, the temperature, 19°.8 Fahr. (—6°.8 Cent.), is 8°.8 Fahr. (4°.9 Cent.) below the normal. In India the departures from the normal temperature are small but generally negative. In Siberia and on the Chinese coast, and over the Japanese Islands, the temperatures are decidedly below the normal.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes	82.7	28.2	Fort Garry, Canada	—14.1	—25.6
Freetown, Sierra Leone	83.5	28.6	Fort Saint Michael's, Alaska	—16.1	—26.7
Mauritius, Indian Ocean	82.2	27.9	Minnedosa, Canada	—13.9	—25.5
Fort Napier, Natal	82.1	27.8	Saint Vincent, United States	—11.5	—24.2
Poona, India	84.8	29.3	Poplar River, United States	— 6.5	—21.4

NOTE.—Report from York Factory, B. A., not received.

In the United States the prevailing winds were generally from north to west, except in the Lake region and central Mississippi and Ohio valleys, where westerly and southwesterly winds prevailed. Over the north Atlantic the winds were as follows: From the coasts of the United States to W. 40° and north of N. 35° they were northwest; between N. 35° and 25° they were west and northwest; from W. 40° eastward to the European coast and north of N. 35° they were southwesterly; south of N. 20° they were from the east. Southerly winds prevailed over the whole western half of Europe, of unusual intensity, and in central Europe with light or moderate force. In Japan the winds were westerly and northerly.

The precipitation during February, 1885, in the United States was above the average in the Rocky Mountain districts, the Rio Grande Valley, and the Florida Peninsula; in all other districts it was below the normal. In Canada a deficiency was reported over all provinces. In Europe the precipitation shows a striking disregard of uniformity. While in the eastern portion of central Europe it scarcely attained half the normal for the month, the amount in the northwest was about the average; over a portion, somewhat above; but in the south, with exception of a part of Bavaria, the normal was much exceeded.

TRACKS OF AREAS OF LOW PRESSURE FOR FEBRUARY, 1885.

The probable paths of thirty-six areas of low pressure are traced on chart iii for February, 1885. They are distributed, geographically, as follows: Eleven (i to xi, inclusive) are traced in the North American continent; eleven (xii to xxii, inclusive) are shown over the Atlantic Ocean; seven (xxiii to xxix, inclusive) are traced in Europe; and the remaining seven (xxx to xxxvi, inclusive) appeared in Asia and over the Pacific Ocean.

Of the areas of low pressure traced in North America, three (numbers v, vi, and x) developed in the western portion of the Gulf of Mexico and moved northeastward to the Atlantic coast, number vi crossing the state of Florida, number x passing off the coast at Cape Hatteras, and number v disappearing in the Gulf of Saint Lawrence; one (number viii) developed near the coast, south of Cape Hatteras, and passed northward to the Canadian Maritime Provinces; three (numbers iii, iv, and vii) originated in the central portion of the United States; one (number i) developed east of Lake Huron; two (numbers ii and xi) first appeared in the vicinity of Manitoba; and one (number ix) originated in Alaska, and thence moved southeastward across the continent to the Atlantic Ocean, where it disappeared. The course of this last area is, therefore, traced across seventy-five degrees of longitude and from N. 60° to N. 38°. Its origin dates from the 13th, when an extensive area of low pressure, which had occupied the Aleutian Islands from the 7th to the 12th, began to move eastward. On the 14th and 15th its position is shown by the observations at Sitka, where the pressure was 29.70 (754.4); thence it moved rapidly southeastward, and on the morning of the 16th is found on the northern boundary of the United States, in longitude W. 110°; at 7 a. m. of the 17th it was central in Kansas, and thence moved eastward to the Atlantic coast, where it passed into the ocean at Chincoteague, Virginia, at 7 a. m. of the 18th. These positions show a steadily increasing rate of transferrence until, on the last day, the area had attained a velocity of over fifty miles an hour.

Area number viii was accompanied by remarkably high tides along the Atlantic coast, the water being reported at many stations as the highest known for many years. Detailed descriptions of the low areas which passed over the United States are given under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for February, 1885.

Of the eleven areas of low pressure traced over the Atlantic Ocean, three (numbers xiii, xv, and xvii) were continuations of low areas which had previously moved over the American continent. Three (numbers xii, xiv, and xxiii) first appeared off the southeast coast of the United States, and moved northeasterly; number xiv united on the 5th with the low area described as number ii of the storms crossing the United States; four (numbers xvi, xix, xx, and xxi) developed, or came within the range of observation, over the mid-Atlantic, near N 40°; and one (number xviii) is traced northwest of the British Isles. With the exception of one (number xvii) the course of all these areas was generally northeast to about W. 20°, where they bent to the north-northeast, and passed between Iceland and the British Isles. Number xvii, which originated in the Gulf of Mexico, moved northeastward to N. 40°, and thence traversed this parallel eastward to W. 20°; at this point its course was bent to the northeast and it entered Europe across the northern extremity of the Iberian Peninsula.

The weather over the Atlantic during the month was mostly of a very stormy character. The pressure remained generally low throughout the month, and in some of the low areas charted fell below 29.0 (736.6).

Detailed descriptions of the more important of the Atlantic storms, with special reports, will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for the month of February, 1885.

Of the seven areas of low pressure traced in Europe, two (numbers xxiii and xxiv) developed in the Tyrrhenian Sea, and, after crossing the Italian Peninsula, bent southeastward and disappeared in the southeastern Mediterranean. One (number xxix) was a continuation of the Atlantic storm described as number xvii; after reaching the coast of France it took a course through the centre of the continent to E. 35°, where its further progress was checked by a high area to the eastward, where the pressure was 30.6 (777.2); the path was then bent backward until the depression was filled, on the 25th, by the high area which had extended itself over the whole continent. The entire length of this track extended across one hundred and thirty-six degrees of longitude. The remaining four low areas (numbers xxv to xxviii, inclusive) had their origin on the western coast of Scandinavia, and in their course the lowest pressures ranged from 29.2 (741.7) to 29.4 (746.7).

From the 1st to the 12th an area of low pressure occupied the northwest coast of the British Isles, attended by high gales and rains. The lowest pressure during this period was reported at Thorshavn, on the 1st, where the barometer was 28.44 (722.3).

Five areas of low pressure (numbers xxx to xxxiv, inclusive) are traced on the Japanese coast and to the northward, but, in general, the location of their centres is uncertain. These storms

were of moderate intensity, with the pressure at about 29.8 (757.0).

Tracks of two areas of low pressure (numbers xxxv and xxxvi) are traced in the eastern Pacific, south of the Aleutian Islands; with number xxxv the pressure fell to 28.67 (728.2), in N. 36°, W. 155°, and moderate gales, force 5–7, were reported. An area of low pressure occupied the Aleutian Islands from the 7th to the 12th and from the 14th to the 16th, a low area, in which the barometer fell to 29.38 (846.2), is found west of the Japanese Islands, in E. 160°.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 86 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

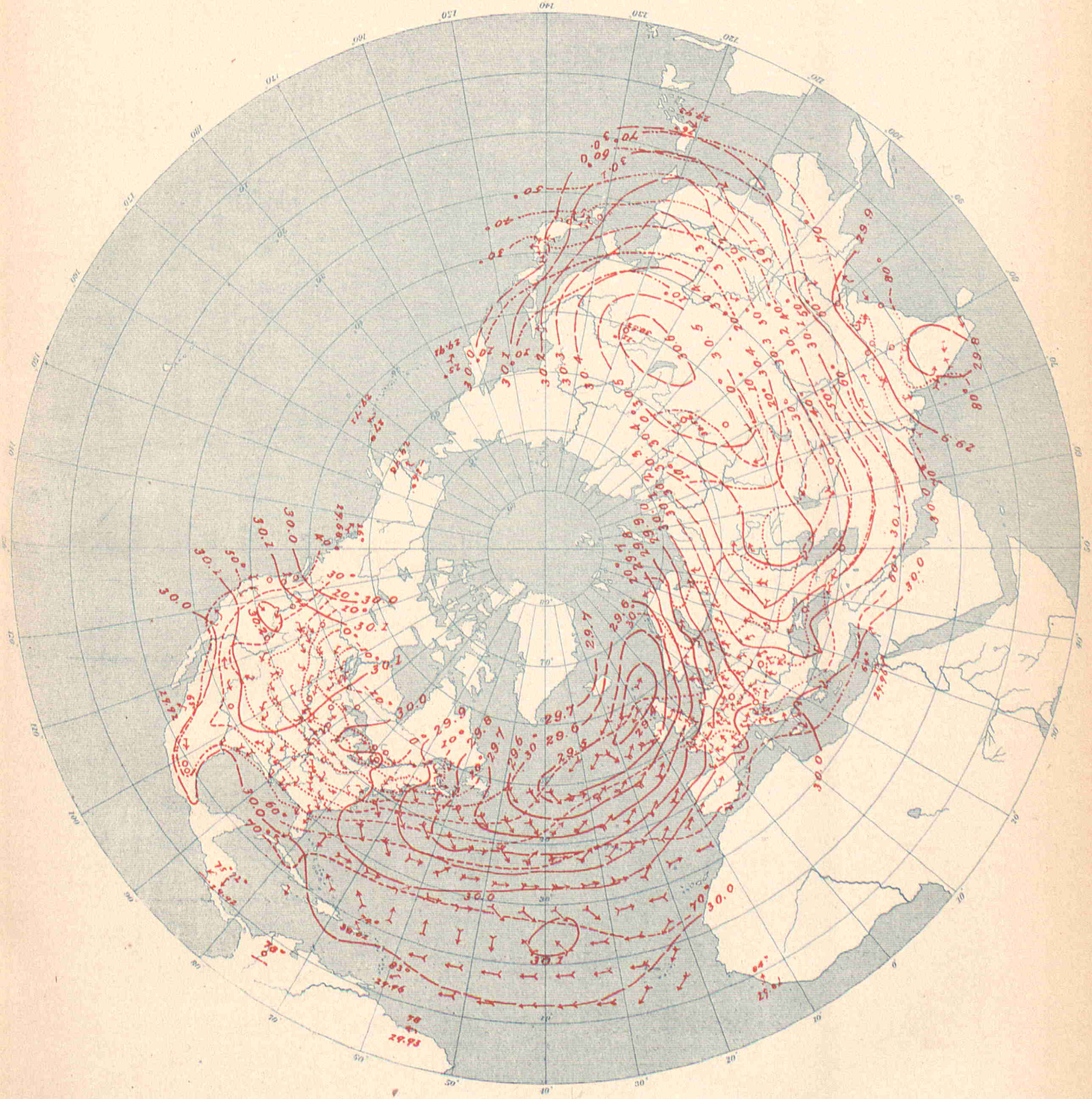
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Brt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. February, 1885. Isobars, Isotherms, and Winds.

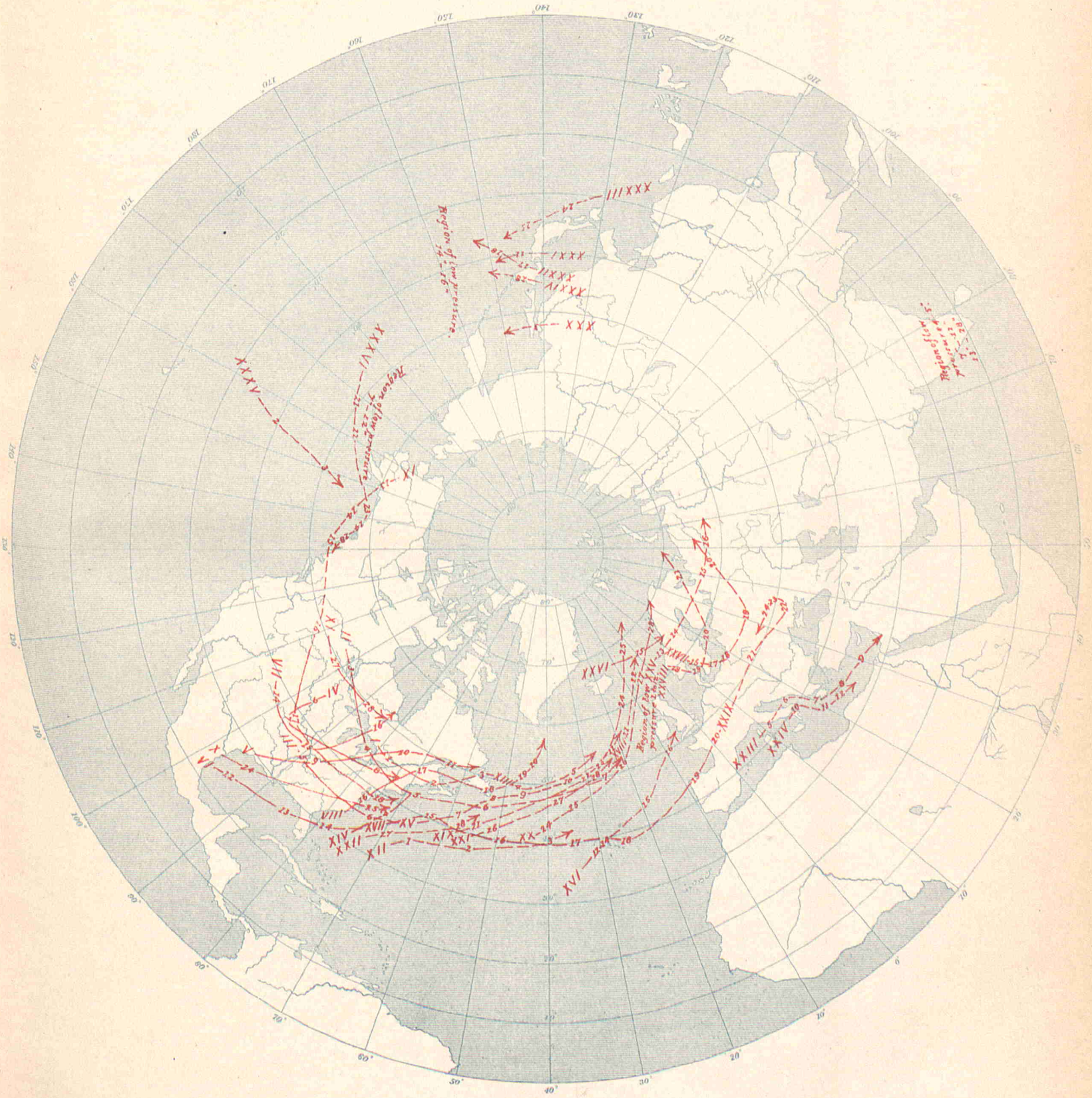


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. February, 1885. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February, 1885—Continued.

Lines and vessels.	Captain.	Observer.
Red "D" Line.		
Steamship Caracas	W. M. Hopkins	Captain.
Red Star Line.		
Steamship Belgenland	W. A. Beynon	Captain.
Nederland	A. J. Griffin	Captain.
Pennland	Rud. Weyer	
Rhynland	J. C. Jamison	Bakker and Spicer.
Switzerland	H. Buschmann	
Westernland	W. G. Randle	W. H. Townshend.
Waesland	J. Ueberweg	
Rotterdam Line.		
Steamship Edam	J. H. Taat	F. Karsh.
P. Caland	F. H. Bonjer	Th. Lehmann.
W. A. Scholten	G. Bakker	P. Steilberg.
State Line.		
Steamship State of Georgia	G. Moodie	Captain.
State of Nevada	J. A. Stewart	Captain.
State of Nebraska	A. G. Braes	Captain.
Thingvalla Line.		
Steamship Thingvalla	S. T. H. Laub	Captain.
Geiser	F. V. Schierbeck	
U. S & Brazil Mail Steamship Company.		
Steamship Finance	Mandell	J. Lord.
Warren Line.		
Steamship Iowa	S. Walters	
White Star Line.		
Steamship Adriatic	H. Parsell	W. P. Brownless.
Britannic	H. Perry	Captain.
Celtic	Benj. Gleadell	
Germanic	C. W. Kennedy	C. Lancaster.
Republic	P. J. Irving	
Wilson Line.		
Steamship Galileo	R. Potter	Captain.
Lepanto	J. T. Rogers, R. N. R.	
Marengo	J. H. Malet	Captain.
Otranto	F. Kerr	G. J. Loveridge.
Winsor Line.		
Steamship Norman	H. W. Goggins	Captain.
Saxon	S. W. Snow	Captain.
Miscellaneous.		
Bark Abbie Clifford	D. W. Storer	Captain.
Schooner Abbie H. Gheen	W. W. Gheen	Captain.
Barkentine Addie Morrill	G. A. Andrews	Captain.
Bark Albemarle	W. H. Forbes	Captain.
Schooner Anna A. Holton	Geo. Smith	Captain.
Ship Alcester	L. C. Dart	Captain.
Ship Armenia	E. L. Carter	Captain.
Ship Ariel	Fred Schwings	Captain.
Bark Antonio Sala	F. H. Mitchell	Captain.
Schooner Arietis	J. H. A. Roberts	Captain.
Bark Artisan	J. Dwyer	Captain.
Brig Atalanta	H. S. Aldrich	Captain.
Ship Baltimore	N. Freese	Captain.
Steamship Benalder	James Ross	Captain.
Bark Betty	S. Wohlmuth	Captain.
Brig Caroline Gray	A. F. Pillsbury	Captain.
Bark Celestina	F. Carniglia	Captain.
Bark Charles Stewart	Horace Atwood	Captain.
Bark Childwall	Ths. O. Watson	Captain.
Bark Corisande	Daniel Thoms	Captain.
Ship Derby	B. Fortmann	T. G. Penon.
Ship Dora	H. Meyer	W. Wasmund.
Steamship Edith Godden	John H. Bennett	Captain.
Steamship East Anglia	W. H. Thomas	Captain.
Schooner Ettie H. Lister	Smith D. Mason	Captain.
Bark Exile	Geo. J. Pearce	Captain.
Schooner Florence Rogers	J. S. F. McLeod	Captain.
Bark Gamaliel	C. S. Powell	Captain.
Brig George	W. H. Champlain	Captain.
Bark George Davis	Thos. Macumber	Captain.
Schooner Governor Hall	John Craig, jr.	Captain.
Bark Haabet	K. Olsen	Captain.
Schooner Henry Waddington	W. H. Magee	Captain.
Ship Ida	W. Schneider	Captain.
Ship Iolanthe	Geo. Scott	Captain.
Schooner Jennie R. Morse	A. D. Calcord	Captain.
Schooner John J. Hanson	Lucius J. Stevens	Captain.
Bark Lovanter	A. F. Vesper	Captain.
Brig L. & W. Armstrong	Albion Alexander	Captain.
Brig L. F. Munson	Jas. A. Smith	Captain.
Brig Lillian	H. F. Schive	Captain.
Schooner Maggie Abbott	D. C. McIntosh	Captain.
Ship Magellan	John W. Strout	J. H. Anderson.
Brig Mary Fink	D. B. Darrah	Captain.
Schooner Mary Nowell	W. M. Lank	Captain.
Ship Mary L. Stone	Geo. L. Josselyn	Captain.
Bark Mohican	B. F. Berry	Captain.
Steamship Monte Rosa	Wm. Thos. Irving	Captain.

Lines and vessels.	Captain.	Observer.
Miscellaneous—*Continued.*		
Ship Morna	J. H. Goodwin	Captain.
Schooner Moses Webster	G. W. Rhodes	Captain.
Schooner Nelson Bartlett	Samuel Watts	Captain.
Schooner Norena	A. B. Chase	Captain.
Steamship North Anglia	C. N. Mumford	Captain.
Bark Orpheus	G. Myer	Captain.
Ship Otto	H. Fortmann	Captain.
Bark Paladin	J. A. Bettencourt	Captain.
Barkentine Payson Tucker	Chas. Brown	Captain.
Steamship Picqua	Wm. Clayton	Captain.
Bark Qvos	G. Olsen	Captain.
Ship Ringleader	J. C. Entwisle	Captain.
Brig Rising Sun	C. V. Decker	Captain.
Bark River Ganges	Thos. Naile	Captain.
Bark Saga	O. P. Lövig	Captain.
Bark Samuel B. Hale	A. S. Haven	Captain.
Schooner Stephen Bonnett	Wm. Douglas	
Bark Strathmuir	A. W. Flemming	Captain.
Steamship Strathleven	C. W. Pearson	Captain.
Schooner Thomas Clyde	A. J. Biddle	Captain.
Bark Templar	R. Roberts	
Bark Tros	Severin Brager	Captain.
Schooner T. W. Dunn	R. McFarland	Captain.
Ship Union	H. Fokken	Captain.
Bark Vikingen	J. C. Anderson	Captain.
Schooner Viola Reppard	Louis Ogier	Captain.
Schooner Walter L. Plummer	V. C. Plummer	Captain.
Bark Winifred	N. P. Dutton	Captain.
Bark Xenia	N. E. Reynolds	Captain.
British Naval.		
H. M. S. Alexandra	Rawson, C. B	G. Yeates.
H. M. S. Amethyst	Brent	C. B. Clark.
H. M. S. Agamemnon	Long	
H. M. S. Alecto	Lieut. Dean	Lieut. Dean.
H. M. S. Audacious	H. Pearson	Staff Com. Neville.
H. M. S. Boadicea	Church	Lieutenant Hulbert.
H. M. S. Briton	Lloyd	Lieut. Fleet.
H. M. S. Champion	Powlett	
H. M. S. Cleopatra	Hippisley	F. W. Barrett.
H. M. Dockyard, Bermuda	Grant	J. H. Ellis.
H. M. S. Dreadnaught	Hon. E. R. Fremantle	Staff Com. Jackson.
H. M. S. Euryalus	Hastings, C. B	Staff Com. Hire.
H. M. M. Frolic	Parr, A. A. C	C. A. Buckland.
H. M. S. Flying Fish	MacLear	
H. M. S. Heroine	Blackburne	Lieut. Nedham.
H. M. S. Minotaur	Britton	Phillips.
H. M. S. Monarch	Bedford	Staff Com. Wood.
H. M. S. Opal	Brooke	Lieut. Roche.
H. M. S. Rambler	Hon. F. C. P. Vereker	Balfour.
H. M. S. Satellite	Arlington	Roberts.
H. M. S. Sappho	Castle	Pearson.
H. M. S. Sylvia	P. Aldrich	
H. M. S. Tamar	Warren	Lieut. Heyward.
H. M. S. Turquoise	Woodward	Lieut. Murray.
H. M. S. Tyne	Darnell	Moulton.
Portuguese Naval.		
H. P. M. S. Tamega	José d'Almeida d'Avila	E. A de Macedo.
H. P. M. S. Rio Lima	A. N. Castillo Barreto e Noronha.	Pedro Berquo.
Swedish Naval.		
H. S. M. S. Balder	R. von Redenberg	Officers
H. S. M. S. Vanadis	Otto Lagerberg	Officers.
Dutch Naval.		
Bromo		
Koning der Nederlanden		
Koningen Emma der Nederlanden		
Leeuwarden		
Prins Hendrick der Nederlanden		
United States Naval.		
U. S. S. Alert	C. J. Barclay	Officers.
U. S. S. Alliance	Lewis Clark	Officers.
U. S. S. Enterprise	A. S. Barker	Officers.
U. S. S. Galena	T. F. Kane	Officers.
U. S. S. Hartford	G. H. Perkins	Officers.
U. S. S. Iroquois	Yates Stirling	Officers.
U. S. S. Jamestown	C. V. Gridley	Officers.
U. S. S. Juniata	P. F. Harrington	Officers.
U. S. S. Kearsarge	W. R. Bridgman	Officers.
U. S. S. Lackawanna	A. P. Cooke	Officers.
U. S. S. Lancaster	E. E. Potter	Officers.
U. S. S. Marion	Merrill Miller	Officers.
U. S. S. Michigan	J. J. Read	Officers.
U. S. S. Monongahela	G. B. Livingston	Officers.
U. S. S. Monocacy	F. J. Higginson	Officers.
U. S. S. Nipsic	W. S. Dana	Officers.
U. S. S. Ossipee	J. F. McGlensey	Officers.
U. S. S. Palos	G. M. Book	Officers.
U. S. S. Pinta	H. E. Nichols	Officers.
U. S. S. Portsmouth	Silas W Terry	Officers.
U. S. S. Powhatan	L. A. Beardsley	Officers.
U. S. S. Quinnebang	N. Ludlow	Officers.
U. S. S. Ranger	C. E. Clark	Officers.
U. S. S. Saratoga	W. H. Whiting	Officers.
U. S. S. Shenandoah	Chas. S. Norton	Officers.
U. S. S. Swatara	G. C. Wiltse	Officers.
U. S. S. Tennessee	O. F. Stanton	Officers.
U. S. S. Trenton	R. L. Phythian	Officers.
U. S. S. Wachusetts	A. T. Mahan	Officers.
U. S. S. Yantic	F. Wildes	Officers.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Corp'l C. McGregor, A. H. C.
Chatham, School M. E	W. Skipper, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Corp'l C. Stares, A. H. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jert, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	Corp'l H. Keene, A. H. C.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	James R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Stilloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough	L. E. Horning
Port Arthur	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace.
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Rafael Moreno.
Niebla	Federico Köhling.
Puntâ Caldera	Manuel Tobar.
Punta Corona	Francisco Alvarado.
Quiriquina	Leon Herrera.
Valparaiso	Paez-i-Ampuero.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
Sung-Chu-Chwang	A. Guelny.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Upernavik, Greenland	
Vestervig	Loerer Oesterbol.
EGYPTIAN.	
Cairo	Albert Ismalun, Director.
FRENCH.	
Agen, Normal School	M. Labrone, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Girand, Director.
Bar-sur-Seine	M. Saillard, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Beauvis, Normal School	M. Frére Eugene Marié.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Richard, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Talliou, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotlier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Lô, Normal School	M. Delaplanche, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awómori	K. Agawa.
Hakodate	
Hamamatsu	J. Sekigawa & M. Yamazaki.
Hiroshima	J. Okamoto.
Kagoshima	G. Miyanohara.
Kioto	M. Tojima.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Niigata	T. Sato.
Nobiru	H. Yoshino and Nanita.
Numadzu	T. Ohgi
Osaka	H. Omura.
Sakai	H. Yamawchi & P. Yoshimura
Shimonoseki	D. Kobayashi
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Leon	M. Leal & M. Pina.
Mazatlan	C. Carmina.
Mexico	The Staff.
Pabellon	M. V. de Leon, M. E.
Puebla	Prof. P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	D. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lusarew.
Archangel	Capt. Skellwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Murcia	Olayo Diaz, Director.
Oviedo	Prof. L. G. Frades.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Vilfes, S. J.
Manila, Philippine Islands	José Mirgadas, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Puerto Berrio, U. S. C	Francisco J. Cisneros.
Rivas, Nicaragua, C. A	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MARCH, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Norwegian	J. G. Stephen.
Prussian	Alex. McDougal.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. C. Burton.
British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Australia	Alex. McRichie.
Columbia	Robt Thos. Garvie.
Devonia	Hugh Young.
Elysia	James Brown.
Ethiopia	J. Wilson.
Furnessia	L. Garrick.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Alvo	David Williams.
Span. Andes	R. de Echevarrieta
Athos	Horatio Low.
BRISTOL CITY LINE.	
Br. s. s. Llandaff City	T. L. Weiss.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. T. Rogers.
CANADA SHIPPING COMPANY.	
Br. s. s. Lake Huron	William Bernson.
Lake Manitoba	William Stewart.
Lake Nepigon	H. Campbell.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Bothnia	T. Roberts.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Scythia	P. Whealan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Frank.
California	O. Winckler.
FURNESS LINE.	
Br. s. s. Durham City	M. P. Lund.
Stockholm City	R. Doyle.
GENERAL TRANS-ATLANTIC Co.	
Fr. s. s. Canada	G. S. de Kersabiec.
Labrador	Périer d'Hauterive.
St. Laurent	M. de Jousselin.
GUION LINE.	
Br. s. s. Arizona	Samuel Brooks.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Montreal	Arthur Redford.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas. Clarke.

Name of vessel.	Captain.
LEYLAND LINE.	
Br. s. s. Bulgarian	Capt. E. Parry.
Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Colorado	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Brooklyn	G. S. Dale.
Ontario	W. P. Couch.
Oregon	H. C. Williams.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
MORGAN LINE.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Egypt	J. Sumner.
Erin	John Robinson.
France	William Pearce.
Holland	Geo. Cochrane.
Spain	Jas. Sumner.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Domenico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	R. Ringk.
Eider	W. Willigerod
Elbe	F. Hameimann.
Ems	C. Leist.
Fulda	O. Heimbruch.
Habsburg	F. Pfeiffer.
Hermann	H. Baur.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	R Bussius.
Nurnberg	A. Jaeger.
Salier	C. Wiegand.
Strassburg	H. Hoincke.
Werra	J. Barre.
Weser	H. Bruns.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	J. Metcalfe.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Oregon	E. Polemann.
Geo. W. Elder	E. W. Holmes.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Australia	R. C. Ghest.
Am. City of New York	R. R. Searle.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
City of Tokio	Com. Jefferson Maury.
Colima	Capt. W. B. Seabury.
Granada	M. Connolly.
San Blas	T. Chapman.

Name of vessel.	Captain.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	Capt. G. S. Locke.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. Bakker.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Gaudiana	C. W. Hanslip.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nebraska	A. G. Braes.
State of Nevada	Jno. A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	Wm. Abbott.
Marengo	J. H. Mulet.
Otranto	F. Kerr.
Rosario	J. T. Rogers, R.N.R.
WINSOR LINE.	
Am. s. s. Norman	H. W. Goggins.
Saxon	S. W. Snow.
MISCELLANEOUS.	
Br. s. s. Amethyst	Robt. Bennington.
Benalder	James Ross.
Bracadale	E. Weddall.
Castleford	C. A. Silsthorpe.
Chiswick	Edw. Leighton.
Edith Godden	John H. Bonnett.
East Anglia	W. H. Thomas.
Kairos	Thos. Liddle.
Matthew Bedlington	Thos. Kirby.
Monte Rosa	W. Thos. Irving.
North Anglia	C. N. Mumford.
Ocean King	Geo. Denham.
Peconic	John Jenkin.
Picqua	Wm Clayton.
Strathleven	C. W. Pearson.
SAILING VESSELS.	
Am. bg. Abbie Clifford	David W. Storer.
schr. Abbie H. Gheen	W. W Gheen.
Br. bg. Achsah	A. M. Shaw.
Am. bkt. Addie Morrill	G. A. Andrews.
sp. A. J. Fuller	Theo. P. Colcord.
schr. Annie R. Lewis	L. L. Lewis.
Ger. sp. Agra	A. Hügemann.
Am. Armenia	E. L. Carter.
Nor. Ariel	F. Schwings.
Am. bg. Atlanta	H. S. Aldrich.
Br. bk. Aureola	Geo. W. Turner.
Am. bg. Belle of the Bay	R. O. Welton.
Ger. bk. Betty	S. Wohlmuth.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MARCH, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MARCH, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1885.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.												
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
AUSTRALIAN.	° ′	° ′																							
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	.....	.....	30.05	763.3	62.8	17.1	61	.....	.....	2	9	5	7	3	2	3	7475	12030	4	0.33	8.4
Hobart Town.*a*	S. 42 53	E. 147 20	9.49 p.m.	190	58	29.65	753.1	29.84	757.9	55.0	12.8	86	4	4	7	6	2	3	.....	.....	4	.....	.....	7	3.51	89.2
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.91	759 7	29.99	761.7	59.6	15.3	74	4	1	5	5	5	10	.....	1	.....	.....	.....	5	2.40	61.0
AUSTRIAN.																									
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.43	747.5	29.98	761.6	49.5	9.7	49.6	3	1	4	6	2	2	1	12	.....	.....	.....	6	1.46	37.1
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.17	741.0	29.97	761.3	42.3	5.7	70.5	2	1	8	7	2	.....	8	3	.....	.....	.....	8	1.43	36.4
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.03	737.4	29.93	760.2	39.9	4.4	71.3	11	.....	.....	.....	8	.....	.....	.....	12	.....	.....	6	0.52	13.3
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.70	728.9	29.97	761.2	45.9	7.7	65.3	.....	6	2	5	8	2	5	3	.....	.....	.....	6	2.37	60.3
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.48	723.3	29.91	759.8	50.2	10.1	46.0	3	10	3	.....	.....	15	.....	.....	.....	.....	.....	5	0.21	5.3
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.61	726.7	29.95	760.8	41.5	5.3	76.5	1	3	11	1	.....	.....	7	3	5	.....	.....	7	2.34	59.4
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.93	734.7	29.94	760.4	40.8	4.9	65.3	1	3	14	.....	.....	5	5	3	.....	.....	.....	6	1.83	46.4
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29 83	757.6	29.94	760.4	52.7	11.5	64.1	.....	2	4	1	2	6	8	8	.....	.....	.....	5	2.94	74.7
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.42	747.3	29.89	759.2	49.1	9.5	57.0	9	5	4	1	8	2	2	.....	.....	.....	.....	3	0.81	20.5
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	282	86	29.65	753 0	29.93	760.2	52.2	11.2	51.5	3	6	3	5	7	2	.....	2	3	.....	.....	5	0.65	16.5
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.86	758.5	29.96	761.0	51.1	10.6	64.0	3	2	.....	3	.....	.....	1	16	6	.....	.....	6	1.72	43.8
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.25	743.0	29.99	761.8	45.7	7.6	59.6	6	6	7	1	2	6	1	1	1	.....	.....	5	1.32	33.5
BRAZILIAN.																									
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.82	757.3	29.98	761.6	76.1	24.5	73.7	6	6	1	3	.....	4	.....	11	.....	.....	.....	6	2.00	50.9
BRITISH.																									
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.89	759.2	30.02	762.5	41.7	5.4	64.3	2	6	9	4	6	2	2	..	.....	11249	18103	6	1.48	37.6
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.10	764.5	43.3	6.3	71.5	2	1	12	4	2	3	2	5	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.52	749.8	30.09	764.3	41.3	5.2	62.9	4	2	4	5	6	3	1	6	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.62	752.3	30.06	763.5	42.4	5.8	71.9	3	7	1	2	3	4	1	10	.....	.....	.....	8	1.50	38.1
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.96	761.0	29.92	760.0	84.2	29.0	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.92	760.0	30.11	764.8	44.9	7.2	68.8	3	1	5	1	.....	1	7	5	8	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.87	758.7	30.11	764.8	45.9	7.7	67.6	6	5	.....	2	9	.....	5	4	.....	.....	.....	6	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.65	702.3	29.93	760.2	79.7	26.5	44.0	4	1	1	1	5	6	6	7	.....	.....	.....	3	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.64	752.8	29.80	756 9	83.0	28.7	88.6	12	1	4	4	6	2	1	1	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	30.01	762.2	30.07	763.8	46.2	7.9	73.5	4	4	2	6	1	4	3	7	.....	.....	.....	5	1.66	42.2
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	58.5	14.7	92.2	.....	11	8	1	1	1	7	2	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.00 m.	159	48	29.91	759.7	30.11	764.8	45.4	7.4	63.8	3	2	1	5	3	2	4	10	1	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.78	756.4	30.10	764.5	45.5	7.5	75.3	2	3	2	2	4	1	5	12	.....	8985	14460	6	1.81	46.0
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.06	763.5	30.12	765 0	44.4	6.9	57.9	5	2	:	5	3	2	2	11	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.81	757.2	30.09	764.3	45.7	7.6	65.0	.....	3	3	9	2	1	.....	12	1	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.83	757.7	29.88	758.9	60.7	15.9	81.5	11	5	3	3	3	2	3	1	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.08	764.0	30.08	764.0	71.9	22.2	80.5	3	4	.....	2	6	1	6	9	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.86	758.4	30.11	764.8	45.1	7.3	66.2	7	3	3	4	5	2	.....	6	1	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	30.01	762.2	30.09	764.3	47.0	8.3	70.7	2	5	1	4	4	2	6	7	.....	.....	.....	6	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.81	757.2	29.95	760.7	40.1	4.5	87.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.88	758.9	29.94	760.5	49.6	9.8	68.0	6	1	.....	10	2	.....	.....	11	1	.....	.....	7	.....	.....
Sillothi Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	30.02	762.5	30.08	764.0	44.4	6.9	73.5	.....	6	3	6	1	3	7	3	2	.....	.....	6	2.60	66.0
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.10	764.5	42.4	5.8	59.7	3	1	7	5	4	1	2	8	.....	.....	.....	7	3.79	96.3
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	30.10	764.5	30.14	765.5	46.8	8.2	75.6	7	3	2	4	2	5	4	4	.....	.....	.....	7	.....	.....
Sub-series.																									
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.58	751.3	29.96	761.0	61.5	16.4	63.5	2	10	3	4	6	3	2	1	.....	4917	7913	6	0.28	7.1
CANADIAN.																									
Bathurst.*e*	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.87	758.7	29.92	760.0	12.0	—11.1	.....	1	.....	4	5	4	.....	2	1	9	.....	.....	7	3.43	87.1
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.91	759.6	29.95	760.7	15.9	— 8.9	86.7	2	3	5	2	4	5	2	2	6	5840	9398	6	2.87	72.9
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.89	759.2	29.96	761.0	7.3	—13.7	95.5	4	1	7	10	3	3	.....	2	1	3824	6154	5	3.64	92.5
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.75	755.6	29.96	761.0	7.4	—13.7	94	.....	4	11	7	.....	1	2	6	.....	.....	.....	5	1.96	49.8
Dalhousie.*a*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.88	758.9	29.95	760.7	6.0	—14.4	.....	.....	.....	.....	19	.....	1	6	.....	4	.....	.....	5	2.90	73.7
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.89	759.2	29.93	760.2	8.7	—12.9	87.0	1	6	2	8	4	1	2	6	1	10746	17294	7	1.93	49.0
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.23	742.4	30.17	766 3	3.0	—16.1	91.5	13	5	2	2	2	2	1	2	2	7547	12146	8	1.22	31.0
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.88	758.9	29.98	761.5	11.0	—11.7	86	6	8	6	.....	1	4	.....	3	3	5588	8993	5	3.92	99.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.89	759.2	29.95	760.7	21.9	— 5.6	80.4	4	4	4	2	3	1	.....	10	3	10006	16103	6	4.72	119.9
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.84	732.5	30.08	764.0	10.7	—11.8	95	3	3	3	1	6	1	.....	1	13	.....	.....	6	1.60	40.6
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.83	757.7	29.97	761.2	21.1	— 6.1	85.8	3	10	7	.....	4	5	2	.....	.....	.....	.....	6	3.88	98.6
Hamilton.*b*	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.62	752.3	30.06	763.5	15.5	— 9.2	86	.....	3	1	21	.....	.....	.....	4	.....	.....	.....	6	1.13	28.7
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.65	753.1	30.02	762.5	11.3	—11.5	85.8	4	1	9	6	3	.....	1	5	2	6221	10012	6	2.20	55.9
LittleGlaceBay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.90	759.4	29.94	760.5	23.5	— 4.7	91	1	5	1	10	.....	3	1	10	.....	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.11	739.4	30.10	764.5	12.5	—10.8	89	5	1	2	3	5	.....	1	1	13	4143	6667	6	1.86	47.2
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.74	704.6	30.12	765.0	29.6	— 1.3	90.8	.....	3	5	5	6	1	.....	1	10	6305	10147	6	0.56	14.2
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.14	714.7	30.18	766.6	5.9	—14.5	.....	3	3	3	2	1	1	4	6	8	.....	.....	6	0.95	24.1
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.77	756.1	29.99	761.7	9.1	—12 7	79.6	3	3	9	6	5	.....	4	1	.....	.....	.....	6	2.80	71.1
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.74	755 4	30.01	762.2	4.3	—15.4	90	2	7	11	4	2	.....	1	4	.....	6146	9891	4	2.09	53.1
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.27	743.4	30.04	763.0	0.7	—17.4	84.2	1	1	4	3	2	4	4	3	9	6218	10007	5	1.54	39.1
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.22	742.2	30.04	763.0	9.0	—12.8	94	2	5	1	4	.....	2	.....	3	14	.....	.....	5	1.77	45.0
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.32	744.7	30.12	765.0	— 0.1	—17.8	87.8	6	6	4	1	.....	.....	1	4	9	4102	6601	5	1.11	28.2
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.31	744.5	30.07	763.8	14.3	— 9.8	.....	3	3	5	8	3	.....	1	4	4	5675	9133	6	1.88	47.8
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.37	746.0	30.07	763.8	13.9	—10.1	89.8	2	4	12	3	1	2	2	4	1	.....	.....	6	1.07	27.2
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.71	703.8	30.14	765.5	14.1	— 9.9	.....	1	8	2	7	3	*2	2	4	4	9358	15060	7	0.90	22.9
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.57	751.1	29.96	761.0	6.4	—14.2	83.8	.....	.....	.....	9	4	.....	2	2	4	10	.....	5	3.65	92.7
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.51	749.5	30.02	762.5	— 5.6	—20.9	84.5	1	10	3	.....	.....	.....	.....	5	.....	12	.....	4	2.55	64.8
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.86	758.4	29.91	759.7	17.4	— 8.1	.....	1	13	.....	1	4	.....	1	5	6	.....	.....	5	4.89	124.2
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.80	756.9	29.96	761.0	17.7	— 7.9	88	8	7	4	.....	4	1	1	2	4	.....	.....	6	6.00	152.4
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.92	760.0	28.4	— 2.0	.....	1	8	5	4	2	2	5	4	.....	.....	.....	.....	3.97	100.8
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.26	743.2	30.03	762.7	8.5	—13.1	89.0	1	4	7	2	5	1	.....	2	9	7958	12807	5	2.19	55.6
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.70	729.0	30.10	764.5	10.1	—12.2	82	1	4	3	2	3	3	1	2	12	4233	6812	6	2.83	71.9
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.90	759.4	29.97	761.2	16.8	— 8.4	89.4	2	3	3	6	9	3	2	1	8057	12966	5	4.65	118.1
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.64	752.8	30.06	763.5	14.3	— 9.8	83.8	6	8	0	6	1	1	...	3	.....	8695	13993	6	1.08	27.4
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28 93	734.8	30.09	764.3	11.9	—11.2	74	1	1	6	17	2	1	1	1	.....	.....	.....	7	1.00	25.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.86	758.4	29.96	761.0	23.9	— 4.5	83.2	5	4	4	2	.....	6	7	3	.....	.....	.....	7	6.07	154.2
Sub-series.																									
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.70	754 4	29.91	759.7	24.1	— 4.4	92.6	1	6	5	3	6	3	.....	7	.....	.....	.....	5	7.07	179.6
CAPE COLONY																									
Cape St.Francis.*a*	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.01	762.2	30.01	762.2	69.7	20.9	91.5	.....	.....	10	5	1	5	3	6	.....	.....	.....	3	1.45	36.8
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.93	760.2	.....	.....	74.7	23.7	53.5	1	9	1	.....	.....	5	.....	6	9	.....	.....	3	1.60	40.6
Springbok.*a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	27 87	707.9	.....	.....	81.3	27.4	44.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.67	17.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1885.																						Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.																	
						Actual.		Reduced.					Directions.									Total Movement.									
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.					0–10	Inch.	Mill.
CHILIAN.	° ′	° ′																												
Coquimbo	S. 29 56	W. 71 21	7.15 a.m	72	22	29.88	759.0	29.92	760.0	61.0	16.1	90	6	1	1	3	1	12	2	5	.....	.....	.....					5	.....	.....
Iquique	S. 20 12	W. 70 11	7.19 a.m	26	8	29.90	759.5	29.87	758.7	66.0	18.9	83	1	3	6	9	5	.....	5	1	1	.....	.....						.....	.....
Niebla	S 39 53	W. 73 25	7.06 a.m.	164	50	29.55	750.5	29.69	754.1	55.9	13.3	85	3	5	.....	.....	.....	.....	23	.....	.....	.....	.....					4	2.47	62.8
Punta Caldera a	S. 27 03	W. 70 53	7.16 a.m.	46	14	29.88	759 0	29.93	760.1	64.4	18.0	82	.....	3	.....	7	2	10	2	6	.....	.....	.....					6	.....	.....
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.76	756.0	29.95	760.6	57.6	14.2	82	3	2	4	6	16	.....	.....	.....	.....	.....	.....					6	0.80	20.4
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	82	25	29.85	758.1	29.96	760.9	60.6	15.9	87	4	.....	2	12	10	1	2	.....	.....	.....	.....					5	.....	.....
CHINESE.																														
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	29.98	761.5	30.04	763.0	60.2	15.7	86.1	2	3	1	.....	.....	2	12	10	1	.....	.....					7	2.47	62.7
Sub-Series.																														
Zi-Ka-Wei	N. 31 12	E.121 26	8.06 p.m.	23	7	30.20	767.0	30.18	766.6	44.1	6.7	82	5	2	.....	.....	1	7	7	9	.....	.....	.....					7	3.82	97.1
DANISH.																														
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.85	758.3	29.93	760.3	39.2	4.0	77	6	6	5	5	2	2	4	1	.....	.....	.....					7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.92	760.0	29.92	761 4	39.6	4.2	77	5	7	10	4	.....	2	1	2	.....	.....	.....					6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.69	754.2	29.79	756.6	27.3	— 2.6	86	.....	.....	2	10	3	3	6	5	.....	.....	.....					8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.70	756.0	29.83	757 6	38.7	3.7	74	8	2	10	5	2	1	.....	2	1	.....	.....					7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.81	757.2	29.94	760 4	38.8	3.8	76	1	9	7	3	3	2	2	4	.....	.....	.....					4	.....	.....
FRENCH.																														
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.33	744.9	30.02	762.6	51.8	11.0	75.0	3	6	3	3	6	8	1	1	.....	.....	.....					6	1.58	40.2
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.50	749.4	30.06	763.6	45.9	7.7	64.1	.....	4	.....	3	3	.....	1	20	.....	.....	.....					.....	1.96	49.8
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.84	757 9	30.10	764.6	44.6	7.0	70.5	5	6	2	3	1	1	6	7	.....	.....	.....					5	1.56	39.6
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.91	759.6	29.98	761.6	57.2	14.0	47.8	12	9	1	5	3	1	.....	.....	.....	.....	.....					.....	0.42	10.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.45	748.1	30.03	762.7	46.9	8.3	70.5	.....	1	.....	5	2	2	11	10	.....	.....	.....					5	2.17	72.8
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	.....	.....	.....	.....	46.0	7.8	78.7	9	4	3	4	1	.....	.....	10	.....	.....	.....					5	3.16	80.4
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.18	741.2	30.10	764.5	48.6	9.2	59.7	10	2	3	6	.....	.....	2	8	.....	.....	.....					5	4.31	111.1
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.72	755.0	29.99	761.7	51.4	10.8	64.9	5	7	1	5	5	.....	4	4	.....	.....	.....					6	1.13	28.6
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.45	748 0	30.01	763.2	49.3	9.6	63.8	15	2	2	3	2	1	2	4	.....	.....	.....					.....	2.70	68.5
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29 85	758.3	30.11	764.8	53.8	12.1	70.9	4	2	1	4	2	3	1	14	.....	.....	.....					6	1.73	44.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.95	760.6	30.03	762.8	47.8	8.8	80.6	9	3	6	5	2	2	1	3	.....	.....	.....					.....	1.02	41.2
Châlons sur Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.69	754.0	30.02	762.5	47.1	8.4	66.4	3	4	.....	8	2	4	1	9	.....	.....	.....					5	0.91	23.2
Charleville	N. 49 46	E. 4 43	0.19 p m.	476	145	29.50	749.2	30.03	762.7	46.8	8.2	66.6	8	4	2	3	1	5	1	7	.....	.....	.....					5	2.63	66.7
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.61	726.8	29.99	761.7	48.2	9.0	57.4	13	4	1	5	1	4	.....	3	.....	.....	.....					7	2.06	52.4
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.13	739.8	29.98	761.6	48.9	9.4	65.8	12	1	4	1	2	1	2	7	1	.....	.....					5	2.37	60.2
Commercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.12	739.6	30.01	762.2	44.1	6.7	68.2	7	2	6	4	1	1	4	6	.....	.....	.....					.....	5.69	144.6
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.40	696.0	29.93	760.2	51.4	10.8	46.1	.....	1	3	3	1	5	3	8	7	.....	.....					3	1.21	30.8
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.77	730.8	29.90	759.5	55.6	13.1	51.9	3	9	.....	8	2	4	2	5	.....	.....	.....					4	0.46	11.8
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.25	743 0	30.04	762.9	50.5	10.3	65.2	5	8	.....	3	1	1	6	4	3	.....	.....					.....	1.03	26.1
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.37	720.7	29.98	761.6	45.0	7.2	76.3	.....	1	2	10	.....	.....	1	11	1	.....	.....					.....	3.43	87.1
Lambrille	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.80	756.8	30.08	764.1	47.8	8.8	76.7	5	5	1	3	1	2	4	10	.....	.....	.....					4	2.57	65.3
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.42	747.2	29.98	761.5	54.3	12.4	62.2	3	4	7	8	.....	3	2	4	.....	.....	.....					4	2.49	63.3
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.96	761.0	30.06	763.6	50.5	10.3	61.7	2	6	.....	1	7	1	3	11	.....	.....	.....					5	1.48	37.5
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.91	734.4	29.98	761.5	48.6	9.2	61.1	13	6	.....	1	5	3	1	2	.....	.....	.....					6	0.55	13.9
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.73	755.1	30.05	763.3	47.7	8.7	70.2	6	1	2	3	3	1	5	10	.....	.....	.....					4	2.15	54.5
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.63	752.7	29.90	759.5	57.6	14.2	54.8	1	4	11	8	.....	3	3	1	.....	.....	.....					4	0.42	10.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.72	627.8	29.56?	750.8?	39.9	4.4	59.4	6	2	2	9	1	1	7	3	.....	.....	.....					5	4.56	115.9
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.83	757 6	29.92	759.9	57.4	14.1	50.4	16	7	.....	1	.....	2	1	4	.....	.....	.....					2	0.69	17.5
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.69	601.7	.....	.....	.....	.....	.....	5	4	3	4	4	8	2	1	.....	.....	.....					4	2.41	61.1
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.22	742.3	30.07	763.8	45.0	7.2	66.0	13	10	2	4	.....	.....	.....	2	.....	.....	.....					.....	3.47	88.2
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.91	759.6	30.07	763.7	49.8	9.9	59.9	4	5	.....	3	2	3	3	11	.....	.....	.....					6	3.09	78.4
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.62	752.4	.....	.....	59.4	15.2	57.0	2	2	7	.....	1	1	2	.....	17	.....	.....					.....	0.69	17.5
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.84	758.0	29.96	760.9	54.9	12.7	55.0	5	10	1	1	1	3	6	3	1	.....	.....					6	4.90	124.4
Pic du Midi (Sum-Privas	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.01	533.7	.....	.....	23.2	— 4.9	.....	.....	2	4	1	6	.....	1	3	8	8	.....					.....	5.88	149.4
Puy de Dôme	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.89	733 7	29.96	760.9	51.4	10.8	62.6	17	.....	.....	1	11	.....	.....	1	1	.....	.....					.....	0.37	9.4
Rochefort	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.00	635.1	.....	.....	29.5	— 1.4	93.1	5	1	3	7	2	2	3	8	.....	.....	.....					8	7.71	195.8
Roche-sur-Yon	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.98	761.6	30.02	762 4	53.2	11.8	61.2	2	.....	3	7	2	3	1	13	.....	.....	.....					4	2.36	60.0
Rodez	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.74	755.4	30.03	762.7	50.0	10.0	63.0	3	6	1	3	.....	2	3	13	.....	.....	.....					3	2.80	71.1
Rouen	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.81	706 3	29.97	761.3	48.4	9.1	73.3	7	5	1	2	.....	5	2	3	6	.....	.....					.....	1.98	50.3
Saint Lô	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.02	762.6	30.08	763.9	46.6	8.1	68.7	4	3	4	1	.....	1	4	14	.....	.....	.....					5	2.11	53.5
Saint Maur	N. 49 06	W. 1 05	11.56 a.m.	135	41	29.91	759.6	.....	.....	46.6	8.1	78.7	4	1	7	4	1	3	6	5	.....	.....	.....					5	1.85	47.0
Toulouse	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.89	759.1	30.06	763.4	47.1	8.4	57.7	11	3	1	4	4	.....	.....	8	.....	.....	.....					6	1.42	36.0
Tours	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.29	743.9	30.01	762.3	54.0	12.2	64.1	2	11	5	.....	...	11	1	1	.....	.....	.....					6	1.72	43.7
Versailles	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.84	757.9	30.02	762.6	50.0	10.0	64.0	6	.....	1	3	3	1	1	16	.....	.....	.....					.....	4.01	101.9
Sub-Series.																														
St. Martin du Hinx	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.58	751.3	30.04	762.9	46.4	8.0	58.2	2	1	6	1	.....	1	11	9	.....	.....	.....					4	1.76	44.7
GERMAN.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.85	758.3	30.00	762.1	53.6	12.0	62.0	6	2	9	1	3	2	4	4	.....	.....	.....					6	2.24	56.8
Ansbach	N. 45 18	E. 10 36	0.42 p.m.	1358	414	28.54	725.0	30.04	763.1	41.5	5.3	62.6	2	4	3	6	2	.....	1	12	1	.....	.....					6	2.81	71.8
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.13	739.8	29.98	761.5	42.8	6.0	66.7	5	7	5	4	1	.....	1	7	1	.....	.....					6	1.87	47.4
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.83	757.6	30.01	762.3	40.6	4.8	72.5	1	10	10	.....	3	.....	3	4	.....	.....	.....					8	1.67	42.4
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.45	748.0	30.00	762.0	41.4	5.2	69.8	1	7	12	2	4	.....	4	1	.....	.....	.....					8	1.38	35.0
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.57	751.1	30.05	763.3	45.0	7.2	65.4	.....	.....	.....	12	1	.....	1	17	.....	.....	.....					7	6.85	174.0
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.26	743.1	29.99	761.7	42.3	5.7	66.5	7	7	1	6	4	1	4	1	.....	.....	.....					7	1.43	36.4
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.65	753.1	30.09	764.3	45.3	7.4	61.8	9	3	1	6	1	1	2	7	1	.....	.....					7	2.13	54.2
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.56	725.4	30.02	762.4	43.3	6.3	73.5	6	.....	2	14	1	.....	1	7	.....	.....	.....					7	3.41	86.6
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.91	759.6	30.02	762.4	39.4	4.1	77.9	4	12	2	6	1	2	2	3	.....	.....	.....					7	1.20	30.4
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.93	760.3	29.97	761.3	39.9	4.4	71.6	3	6	10	2	1	2	1	6	.....	.....	.....					6	0.87	22.1
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.56	750.8	30.01	762.3	40.5	4.7	80.9	5	9	6	5	1	1	3	2	.....	.....	.....					8	2.00	50.7
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.79	756.6	30.00	762.0	41.4	5.2	70.3	3	13	5	4	1	1	1	3	.....	.....	.....					7	1.51	38.3
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.86	753.4	29.94	760 4	36.5	2.5	82.3	4	4	8	3	6	3	.....	.....	.....	.....	.....					8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.14	714.8	30.01	762.3	41.4	5.2	66.2	.....	6	2	1	1	.....	7	3	11	.....	.....					7	2.69	68.3
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.87	758.8	29.93	760.3	39.0	3.9	76.2	4	4	6	4	3	2	6	2	.....	.....	.....					8	0.86	21.9
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.48	748.8	30.02	762.5	45.3	7.4	65.0	12	7	5	4	.....	.....	.....	.....	3	.....	.....					8	2.38	60.5
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.11	739.3	30.03	762 8	44.1	6.7	68.1	5	9	2	4	.....	4	1	6	.....	.....	.....					7	2.80	71.1
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.93	760.2	29.98	761.4	53.8	12.1	81.9	6	2	6	9	.....	2	2	4	.....	.....	.....					8	0.32	8.1
GREEK.																														
Athens	N. 37 58	E. 23 44	1.35 p.m.	361	110	29.56	750.8	29.93	760.1	61.3	16.3	72.3	9	2	2	5	6	3	1	3	.....	.....	.....					6	3.39	86.0
INDIAN.																														
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.85	758.2	29.85	758.2	80.0	26.7	54	.....	.....	15	16	.....	.....	.....	.....	.....	.....	.....					4	0.34	8.6
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.39	746.5	29.80	756.9	93.1	33.9	15	3	7	14	5	.....	.....	1	1	.....	.....	.....					3	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.84	757.9	29.82	757.4	80.5	26.9	68	5	20	5	1	.....	.....	.....	.....	.....	.....	.....					1	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.00	711.2	29.73	755.1	92.3	33.5	16	1	14	12	2	.....	1	.....	1	.....	.....	.....					4	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.33	694.2	29.75	755.6	83.3	28.5	44	.....	.....	.....	4	22	2	2	1	.....	.....	.....					2	0.40	10.2
Lahore	N. 31 34	E. 74 20	4.57 p.m.	732	223	29.17	740.9	29.85	758.2	80.7	27.1	35	5	7	2	.....	2	.....	3	3	9	.....	.....					4	0	0
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.96	735.6	29.81	757.2	81.6	27.6	29	.....	1	20	.....	.....	.....	.....	10	.....	.....	.....					3	0.17	4.3
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.30	744.2	29.81	757.2	88.8	31.6	24	.....	5	20	2	.....	2	1	1	.....	.....	.....					2	0.15	3.8
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.79	731 3	29.74	755.4	91.9	33.3	28	3	1	3	3	3	.....	1	15	.....	.....	.....					4	1.40	35.6
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.48	723.4	29.75	755.6	89.2	31.8	22	5	5	3	.....	.....	3	.....	3	12	.....	.....					3	0.12	3.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.50	749.3	29.82	757.4	87.2	30.7	24	8	12	3	.....	.....	1	.....	6	.....	.....	.....					2	0	0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.53	750.0	29.78	756.4	87.3	30.7	29	1	17	6	.....	.....	.....	1	4	.....	.....	.....					2	0.02	0.5
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.64	752.8	29.77	756.1	86.2	30.1	33	2	11	8	.....	.....	2	2	1	.....	.....	.....					2	0.25	6.3
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.85	707.4	29.79	756 7	80.8	27.1	28	6	11	5	2	2	1	2	2	.....	.....	.....					2	1.13	28.7
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.79	756.7	29.81	757.2	86.0	30.0	55	.....	1	1	1	2	12	3	1	.....	11	.....					3	0.81	20.6
Calcutta	N. 22 33	E. 88 21	5.53 p.m	21	6	29.84	757 9	29.81	757.2	84.0	28.9	50	1	.....	2	8	12	1	.....	.....	7	.....	.....					2	1.01	25.7
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.74	755 4	29.80	756.9	79.5	26.4	47	1	2	5	1	.....	1	4	2	15	.....	.....					2	4.41	112.0
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.82	757.4	29.85	758.2	79.3	26.3	69	.....	5	8	8	8	.....	.....	.....	2	.....	.....					3	3.04	77.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
INDIAN—Cont'd.	° ′	° ′																								
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.56	750.8	29.85	758.2	72.3	22.4	74	.....	.....	1	3	.....	2	2	23	.....	.....	.....	3	3.47	88.1
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.45	722.6	29.82	757.4	86.8	30.4	26	3	14	4	5	.....	1	.....	2	2	.....	.....	4	0.02	0.5
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.36	720.3	.....	.....	95.2	35.1	20	.....	3	1	2	1	5	18	1	.....	.....	.....	4	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.62	752.3	29.82	757.4	92.6	33.7	43	.....	1	.....	.....	..	2	21	7	.....	.....	.....	2	0.07	1.8
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.43	748 7	29.89	759.3	51.8	11.0	57	1	1	3	6	10	3	2	.....	5	.....	.....	6	2.39	60.8
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.43	747.6	29.96	761.0	51.6	10.9	61	2	2	3	8	2	8	5	1	.....	.....	.....	6	2.66	67.5
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.83	757.7	29.94	760.5	51.8	11.0	59	1	5	3	.....	1	.....	11	7	3	.....	.....	6	3.04	77.3
Moncalieri	N. 45 00	E. 7 41	0.31 p.m.	846	258	29.04	737.5	29.96	760.9	49.8	9.9	67	3	5	1	2	6	6	8	.....	.....	.....	.....	6	2.24	56.9
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.72	754.8	29.91	759.8	54.1	12.3	61	9	1	1	3	3	9	2	3	.....	.....	.....	6	3.53	89.7
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.88	759.0	29.93	760.2	52.2	11.2	69	7	7	3	2	.....	4	2	6	.....	.....	.....	6	2.14	54.3
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.65	753.0	29.90	759.5	55.8	13.2	53	3	3	3	6	1	1	2	12	.....	.....	.....	6	2.05	52.0
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.72	754.9	29.89	759.1	59.7	15.4	52	5	.....	2	5	14	.....	2	1	2	.....	.....	6	2.41	61.2
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.67	753.5	29.91	759.7	58.5	14.7	62	6	4	.....	6	4	3	4	4	.....	.....	.....	5	3.06	77.7
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.03	737.3	29.91	759.6	59.4	15.2	68	1	6	10	6	.....	8	.....	.....	.....	.....	.....	6	4.65	118.0
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.69	754.1	29.93	760.2	62.4	16.9	50	1	6	8	2	1	.....	4	8	1	.....	.....	7	1.38	35.1
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.88	758.9	29.90	759.5	60.6	15.9	64	6	.....	4	3	2	1	10	5	.....	.....	.....	7	1.65	42.0
Sub-Series.																										
Naples. *b*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.39	746.5	.....	.....	57.7	14.3	61	1	3	5	9	6	.....	.....	5	.....	.....	.....	6	1.59	40.4
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.96	760.9	29.98	761.5	32.2	0.1	80.6	6	6	5	.....	.....	3	2	.....	9	.....	.....	8	4.63	117.5
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.93	760.2	29.95	760.8	30.0	— 1.1	77.5	2	6	9	4	3	2	2	.....	3	8037	12934	7	1.87	47.6
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.94	760.5	29.94	760.5	31.1	— 0.5	77.6	10	4	10	.....	1	.....	5	.....	1	9970	16044	5	1.42	36.0
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.93	760.3	30.00	762.0	40.6	4.8	68.1	1	11	11	.....	.....	1	.....	2	5	.....	.....	5	6.03	153.2
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	13	4	30.11	764.7	30.09	764.3	40.8	4.9	79.7	13	2	3	1	2	.....	2	4	4	4092	6546	4	4.37	111.0
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.14	765.5	30.11	764.9	47.1	8.4	78.9	9	12	4	.....	1	.....	1	3	1	.....	.....	4	4.83	122.6
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.93	761.5	30.07	763.8	36.5	2.5	79.5	2	6	2	5	5	4	4	2	1	5210a	8384a	7	8.15	207.1
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.92	760.0	30.06	763.6	37.0	2.8	78.5	5	8	3	.....	.....	2	.....	4	9	2768	4455	4	4.22	107.2
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.08	764.0	30.07	763.7	45.5	7.5	72.0	7	4	7	1	.....	4	4	4	.....	6707	10793	5	9.08	230.7
Miasaka	N. 31 56	E.131 26	8.46 p.m.	26	8	30.11	764.8	30.10	764.0	47.5	8.6	73.7	5	1	19	2	.....	.....	1	3	.....	.....	.....	4	5.44	138.2
Miyako	N. 39 38	E. 141 59	9.28 p.m.	98	30	29.85	758.1	29.94	760 5	32.9	0.5	78.0	2	1	11	1	1	.....	1	1	13	2810	4523	4	2.63	66.7
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.95	760 6	30.14	765.6	45.0	7.2	74.6	13	2	3	2	.....	2	1	4	4	4527	7285	5	4.09	103.8
Nemuro.*a*	N. 43 20	E.145 35	9.42 p.m.	43	13	29.83	757.7	29.88	758 9	23.9	— 4.5	81.0	4	6	3	1	.....	3	3	4	6	16904	27300	6	1.61	40.8
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.00	762.0	30.02	762.4	36.0	2.2	78.6	1	3	8	5	.....	4	.....	2	8	6884	11079	7	3.81	96.8
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.96	761.0	29.96	760.9	33.8	1.0	76.6	6	12	2	2	3	1	1	3	1	10680	17188	4	2.31	58.7
Numadzu	N. 35 06	E.138 51	9.15 p.m.	33	10	29.95	760.7	29.96	761.0	42.6	5.9	72.3	4	.....	5	3	2	1	13	3	.....	.....	.....	5	4.52	114.9
Osaka	N. 34 41	E.135 30	9.02 p.m.	46	14	30.05	763.2	30.07	763.7	39.6	4.2	77.6	9	4	3	.....	2	.....	4	9	.....	8489	13662	3	2.79	70.9
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.10	764.5	30.03	764.1	40.5	4.7	76.7	3	1	16	3	.....	.....	3	3	2	.....	.....	7	6.31	160.2
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.99	761.7	30.11	764.7	43.3	6.3	69.5	1	2	4	3	.....	.....	1	2	18	.....	.....	4	4.98	126.4
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.93	760.2	29.98	761.4	39.6	4.2	68.4	15	4	3	.....	4	1	2	2	.....	.....	.....	4	2.97	75.5
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.04	763.1	30.06	763 6	42.3	5.7	71 6	4	4	1	1	2	.....	3	5	11	2438	3922	4	3.24	82.3
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.75	755.6	29.88	758.9	81.0	27.2	69.4	2	.....	3	1	.....	6	12	7	.....	.....	.....	6	5.73	145.5
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.71	602.2	29.82	757 4	59.9	15.5	64.0	.....	4	.....	3	...	19	1	4	.....	.....	.....	3	0.32	8.1
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.36	618.7	30.02	762.5	55.1	12.8	70.0	6	18	2	.....	1	.....	4	2	2	.....	.....	6	0.71	18.0
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.71	754.6	29.92	760.0	67 3	19.6	77.7	4	10	1	.....	.....	.....	14	2	.....	.....	.....	3	inap.	inap.
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.11	587.0	30.14	765.5	50.9	10.5	72.0	.....	1	.....	.....	1	.....	.....	.....	29	.....	.....	1	0.53	13.5
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.47	596.1	30.08	764.0	60.4	15.8	53.0	4	6	.....	.....	.....	.....	.....	3	18	.....	.....	1	0.49	12.4
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.11	764.7	30.11	764.7	44.8	7.1	.....	9	1	5	5	.....	2	2	6	1	.....	.....	.....	0.70	17.8
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.97	761.1	30.04	763.0	41.4	5.2	.....	12	1	5	2	3	.....	.....	4	.....	.....	.....	.....	0.02	15.7
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.06	763.5	30.06	763.5	41.0	5.0	.....	6	4	3	7	1	1	1	8	.....	.....	.....	.....	0.67	17.1
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.09	764.2	30.09	764.2	45.0	7.2	.....	5	3	3	6	.....	5	7	2	.....	.....	.....	.....	0.74	18.8
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	30.01	762.2	30.08	763.9	44.6	7.0	.....	14	2	1	8	1	1	2	2	.....	.....	.....	6	1.09	27.6
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.86	758.4	78.3	25.7	88.1	7	14	4	1	.....	.....	2	3	.....	.....	.....	7	17.52	444.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.78	756.3	29.88	758.9	37.0	2.8	78.2	9	4	2	1	12	3	.....	.....	.....	.....	.....	6	5.31	134.8
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.62	752.3	29.71	754.6	34.2	1.2	73.2	7	.....	4	4	6	4	2	.....	4	.....	.....	8	2.89	73.3
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.70	754.3	29.89	759.2	36.7	2.6	58.2	3	5	.....	5	5	1	5	3	4	.....	.....	6	0.59	14.9
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.48	748.8	29.56	750.9	28.8	— 1.8	.....	3	2	1	6	7	2	1	4	5	.....	.....	7	3.85	97.7
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.00	762.0	30.06	763.4	60.8	16.0	62.9	3	1	1	9	2	5	3	.....	7	.....	.....	7	2.63	66.9
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.61	752.0	29.93	760.1	55.6	13.1	66.0	7	5	2	4	5	1	1	6	.....	.....	.....	6	2.72	69.0
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.24	768.2	30.30	769.5	58.8	14.9	65.5	4	4	2	1	.....	1	.....	17	2	.....	.....	4	1.92	48.9
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	33	10	30.03	762.8	30.00	762.1	70.7	21.5	59.0	2	.....	.....	.....	.....	.....	11	18	.....	.....	.....	5	0.08	2.0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.02	711.6	29.75	755.7	84.7	29.3	59.5	3	4	5	6	7	.....	.....	1	5	.....	.....	6	10.39	264.0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.14	638.5	29.95	760.7	37.0	2.8	84.5	3	2	2	2	7	4	12	3	1	.....	.....	7	11.93	302.9
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	29.00	736.7	30.18	766.5	19.0	— 7.2	86.4	2	2	2	3	2	2	4	12	2	.....	.....	6	0.15	3.9
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.78	756.3	29.84	758.0	28.6	— 1.9	75.1	4	1	.....	4	10	8	3	.....	1	.....	.....	7	0.37	9.3
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.20	767.0	30.12	765.0	39.9	4.4	53.3	2	1	7	3	3	6	0	1	2	.....	.....	6	0.87	22.0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.11	764.8	30.05	763.3	45.9	7.7	72.3	16	.....	.....	2	5	1	1	2	4	.....	.....	4	0.09	2.2
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.74	755.3	30.29	769 4	21.0	— 6.1	69.9	3	.....	2	6	1	.....	.....	6	13	.....	.....	4	0.48	12.2
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.58	751.3	29.87	758.6	31.6	— 0.2	77.5	4	3	6	3	3	4	2	4	1	.....	.....	7	1.07	27.1
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.11	739 5	30.16	706.0	28.9	— 1.7	63.1	.....	3	6	5	3	8	3	2	3	.....	.....	6	0.18	4.7
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.51	749.6	29.98	761.6	38.8	3.8	69.1	.....	0	6	3	4	3	2	1	.....	.....	.....	8	0.45	11.4
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.84	757.9	30.02	762.4	33.7	3.7	57.0	7	2	3	4	1	3	6	7	.....	.....	.....	6	0.84	21.3
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.75	755.6	30.06	763.6	27.9	— 2.3	70.3	2	.....	1	5	7	6	4	2	4	.....	.....	6	0.11	2.7
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.71	754.6	29.81	757.1	28.4	— 2.0	67.3	3	.....	.....	5	7	4	5	6	4	.....	.....	7	0.43	10.9
Kertch. *a*	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.97	761.1	29.99	761.7	45.1	7.3	70.3	.....	3	3	3	5	3	6	4	3	.....	.....	7	0.82	20.7
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.25	743.0	29.93	760.1	36.5	2.5	71.4	3	5	4	5	3	5	3	5	3	.....	.....	8	1.73	43.9
Kosiov. *a*	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.44	747.8	29.99	761 7	29.8	— 1.2	83.7	1	4	3	5	3	5	6	2	1	.....	.....	8	1.50	38.0
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.38	746.2	30.00	762.1	34.2	1.2	73.5	.....	2	5	5	3	5	7	2	1	.....	.....	8	1.13	28.7
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.84	757.9	29.87	758.8	36.1	2.3	79.5	4	1	7	6	4	3	4	6	.....	.....	.....	7	0.85	21.5
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.79	756.6	30.01	762.2	39.4	4.1	60.2	1	1	7	6	2	2	7	4	1	.....	.....	8	0.68	17.3
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.41	747.0	29.94	760.4	30.9	— 0.6	72.5	1	1	5	4	1	5	11	1	2	1	1	6	0.94	23.9
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.87	708 0	30.38	771.7	11.1	—11.6	69.7	2	8	1	4	1	5	1	1	18	.....	.....	4	0.07	1.8
Nikolajev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.90	759.5	29.97	761.3	42.1	5.6	73.1	1	3	3	5	5	.....	6	6	2	.....	.....	5	0.39	9.9
Nikolaievsk. *a*	N. 53 08	E.140 45	9.23 p.m.	59	18	30.08	763.9	30.18	766.6	10.2	—12.1	75.0	2	3	2	.....	.....	.....	2	3	13	.....	.....	8	.....	.....
Nikolsk. *a*	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.51	749.5	30.00	762.1	32.9	0.5	64.5	2	2	.....	4	5	11	3	1	2	.....	.....	8	1.07	27.2
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.73	755.1	30.08	763.9	50.0	10.0	38.1	2	6	3	1	1	5	.....	9	4	.....	.....	6	0.37	9.3
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.60	751.7	29.84	757.9	28.4	— 2.0	69.1	3	6	1	5	4	7	3	.....	2	.....	.....	6	2.08	52.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.41	747.1	29.95	760.6	37.8	3.2	68.9	2	3	8	3	2	4	7	1	1	.....	.....	8	0.54	13.6
Potl	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.97	761.2	29.99	761.8	52.7	11.5	86.3	.....	.....	6	10	1	2	11	.....	1	.....	.....	5	5.88	149.4
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.80	756.9	29.86	758.5	30.2	— 1.0	69.4	3	3	3	4	6	8	3	1	.....	.....	.....	6	0.44	11.2
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.55	699.7	30.02	762.4	57.1	10.6	66.8	1	1	2	3	.....	4	2	.....	18	.....	.....	7	4.40	111.8
Semipalatinsk. *a*	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.58	751.4	30.35	770.8	20.1	— 6.6	84.8	4	1	1	2	.....	1	1	6	2	13	.....	6	0.76	19.4
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.75	755.6	29.97	761.1	47.7	8.7	60.5	4	8	5	4	4	1	1	.....	.....	.....	.....	6	1.30	33.1
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.32	744.6	29.91	759.7	35.4	1.9	66.8	1	3	2	2	6	12	4	1	.....	.....	.....	9	0.84	21.4
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.35	720.0	30.01	762.3	53.8	12.1	61.0	5	5	10	1	1	.....	.....	5	4	.....	.....	8	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.60	726.5	30.02	762.6	50.0	10.0	42.5	5	7	.....	1	5	9	2	.....	2	.....	.....	6	0.47	12.0
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.50	749 2	29.95	760.7	40.5	4.7	67.5	2	5	7	5	2	6	2	.....	2	.....	.....	8	0.66	16.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1885.																		Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																								
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	30.08	763.9	30.42	772.7	18.9	— 7.3	58.2	1	4	2	2	1	4	3	1	13	.....	.....	5	0.31	7.8
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.29	744.0	29.84	757.9	31.9	— 0.1	68.5	1	6	2	6	7	6	2	1	.....	.....	.....	7	1.07	27.2
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.78	756.4	29.93	760.3	55.8	13.2	73	6	2	4	5	5	3	3	3	.....	.....	.....	6	1.74	44.2
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.94	760.5	30.00	762.0	50.4	10.2	67	1	10	3	1	3	4	.....	2	7	1787	2876	8	2.99	75.9
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.00	685.9	30.04	762.9	44.4	6.9	72	4	.....	1	5	4	.....	.....	17	.....	6899	11103	8	2.59	65.8
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.70	703.6	29.95	760.7	51.6	10.9	66	1	...	3	8	.....	6	4	9	.....	7669	12342	7	6.07	154.1
Oviedo	N. 43 23	W. 5 49	11.37 a.m.	801	244	29.22	742.2	29.97	761.2	46.6	8.1	79	2	8	2	7	4	6	1	1	.....	.....	.....	4	3.40	86.4
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.05	737.8	29.97	761.3	53.1	11.7	68	1	....	1	4	.....	2	1	22	....	11438	18408	8	6.25	158.7
Sub-Series.																										
Havana	N. 23 08	W. 82 23	6.30 a.m.	62	19	30.04	763.0	30.05	763.2	68.4	20.2	85.1	5	1	.....	.....	3	5	15	2	.....	.....	.....	3	1.42	36.2
Manila	N. 14 35	E. 120 57	8.04 p.m.	52	16	29.96	760 9	29.95	760.6	79.0	26.1	69.1	.....	.....	... ...	4	1	14	10	2	.....	.....	.....	1	0	0
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.89	759.1	29.97	761.1	58.8	14.9	71.4	1	7	6	2	6	3	4	2	.....	.....	.....	7	2.57	65.3
San Juan de Porto Rico	N. 18 30	W. 66 10	7.35 a.m.	82	25	30.02	762.5	30.05	763 3	75.9	24.4	89	.....	.....	.....	1	7	12	.....	.....	11	.....	.....	5	1.08	27.3
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.67	753.5	29.76	755.8	24.3	— 4.3	84	6	1	2	5	8	3	.....	1	5	.....	.....	6	1.33	33.7
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.70	754 3	29.80	756.8	31.1	— 0.5	75	5	5	.....	16	1	.....	.....	3	1	.....	.....	5	0.85	21.6
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.71	754 5	29.80	756 9	34.5	1.4	66	3	5	2	3	8	.....	.....	2	8	.....	.....	5	0.50	12.7
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.64	752 9	29.85	758.3	35.4	1.9	68	4	4	6	2	2	1	1	10	.....	.....	.....	7	0.54	13.6
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.78	756.4	29.87	758.7	35.6	2.0	78	7	4	6	4	2	3	3	2	.....	.....	.....	5	0.80	20.4
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.71	754.7	29.84	757.9	34.2	1.2	69.7	6	6	5	5	5	3	1	.....	.....	.....	.....	6	0.74	18.8
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.25 p m.	1339	408	28.54	724 9	29.99	761.7	45.5	7.5	64.4	23	2	.....	.....	5	.....	.....	1	....	.....	.....	6	1.52	38.5
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.98	761.6	48.4	9.1	69	8	5	.....	8	2	3	.....	5	.....	.....	.....	8	1.76	44.6
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.02	762.6	62.6	17.0	.....	.....	14	4	12	1	.....	.....	.....	.....	.....	.....	6	3.43	87.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.90	759.4	65.5	18.6	63.8	5	5	2	13	.....	.....	.....	6	.....	.....	.....	6	1.63	41.5
Samakov. *d*	N. 42 12	W. 23 42	1.35 p.m.	?	?	26.67	677.4	.....	.....	42.9	6.1	69.6	.....	1	3	.....	...	1	3	1	18	.....	.....	6	0.20	5.0
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.86	758.4	29.93	760.2	20.1	— 6.6	75.4	7	8	3	2	5	.....	.....	4	2	7759	12487	5	5.94	150.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.92	760.0	29.98	761.5	22.4	— 5.3	70.0	9	7	9	1	2	.....	.....	1	1	5949	9574	6	1.59	40.4
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.30	591.8	29.82	757.4	1.2	—17.1	93.0	2	9	11	6	1	.....	.....	.....	2	26005	32194	3	0.95	24.1
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.87	758.7	30.00	762.0	22.8	— 5.1	68.8	4	4	17	2	4	.....	.....	.....	.....	10277	16539	5	1.15	29.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.00	762.0	30.02	762.5	27.1	— 2.7	77.9	7	7	.....	2	4	1	.....	5	5	10988	17683	5	0.81	20.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.00	762.0	30.04	763.0	25.8	— 3.4	76.8	5	10	5	4	2	1	1	3	.....	6337	10198	4	1.55	39.4
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.93	760.2	30.04	763.0	22.5	— 5.3	79.7	9	1	10	2	2	.....	.....	2	5	5760	9270	4	1.19	30.2
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.97	761.2	30.06	763.5	18.8	— 7.3	73.0	8	9	1	5	3	.....	.....	2	3	6000	9656	5	0.62	15.7
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.89	759 2	30.06	763.5	25.6	— 3.6	77.1	6	13	5	.....	3	1	2	.....	1	8886	14300	5	1.19	30.2
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.95	760.7	30.07	763.8	26.3	— 3.2	69.5	7	8	6	.....	4	.....	1	2	3	8115	13060	5	0.69	17.5
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.05	763.3	30.07	763.8	26.8	— 2.9	73.6	6	8	6	1	5	.....	1	4	.....	13508	21739	5	0.67	17.0
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.04	763.0	30.04	763.0	28.0	— 2.2	81.3	1	11	4	5	1	1	2	6	.....	7475	12030	5	0.95	24.1
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.05	763.3	30.06	763.5	29.6	— 1.3	79.3	9	8	4	2	3	.....	2	3	.....	11649	18747	5	0.23	5.8
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.04	763.0	30.06	763.5	30.7	— 0.7	77.1	4	8	4	4	4	.....	1	6	.....	12476	20078	5	2.29	58.2
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.04	763.0	30.08	764.0	30.9	— 0.6	66.6	2	12	5	2	2	5	1	2	.....	4876	7847	6	1.60	40.6
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.99	761.7	30.09	764.3	29.5	— 1.4	78.8	4	8	3	3	7	1	.....	5	.....	5589	8994	5	1.53	38.9
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.07	763.8	30.06	763 5	32.9	0.5	83.6	4	8	6	3	3	2	.....	3	2	9093	14634	6	2.25	57.1
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.08	764.0	30.08	764.0	36.1	2.3	76.4	4	4	2	9	4	.....	.....	8	.....	10287	16555	5	2.51	63.8
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.38	746.2	30.08	764.0	32.9	0.5	73.9	1	4	3	7	3	.....	4	5	4	3470	5584	6	1.18	30.0
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.08	764.0	30.09	764 3	35.7	2.1	79.8	4	4	2	9	3	.....	1	8	.....	6589	10604	5	3.04	77.2
S Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.09	764.3	30.08	764.0	38.2	3.4	82.1	6	3	5	6	2	.....	.....	8	1	12843	20668	4	3.48	88.4
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.07	763.8	30.06	763.5	42.0	5.6	85.4	2	5	5	2	1	1	13	1	9919	15963	4	3.72	94.5
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.09	764.3	30.07	763.8	41.6	5.3	83.8	5	7	3	6	.....	1	.....	7	2	11662	18768	5	2.59	65.8
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.07	763.8	30.08	764.0	41.5	5.3	79.3	10	2	7	1	1	.....	2	6	2	7172	11542	4	2.13	55 4
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.06	763.5	30.09	764.3	44.0	6.7	75.4	4	6	1	7	1	1	1	10	.....	5375	8650	5	2.05	52.1
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.25	742.9	30.10	764.5	39.2	4.0	74.2	3	3	1	9	4	1	1	9	.....	4435	7137	5	2.91	73.9
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.04	763.0	30.06	763.5	46.9	8.3	81.0	5	3	7	9	.....	1	.....	4	2	5227	8412	4	1.76	44.7
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.97	761.2	30.13	765.3	41.1	5.1	85.4	2	5	6	4	3	2	2	5	3139	5052	5	1.85	47.0
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.04	763.0	30.10	764 5	48.4	9.1	73.5	5	6	4	6	3	1	1	5	.....	5472	8806	4	3.11	79.0
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.10	764.5	30.11	764.8	51.6	10.9	84.3	1	8	2	4	2	4	... ...	8	4	4039	6500	6	5.66	143.8
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.11	764.8	30.09	764.3	54.2	12.3	82.4	9	4	4	1	6	1	2	4	.....	5748	9250	5	3.07	78.0
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.10	764.5	30.07	763.8	68.6	20.3	83.3	5	4	1	1	2	3	4	10	1	7875	12673	4	1.19	30.2
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	.....	.....	.....	.....	55.8	13.2	84.0	17	1	... ..	4	3	1	2	2	1	4498	7239	5	4.60	116.8
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.93	734.8	30.11	764.8	40.7	4.8	66.1	2	6	11	6	1	2	1	2	.....	7494	12060	5	4.26	108.2
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.14	765 5	30.13	765.3	48.9	9.4	80.6	13	5	1	1	1	1	6	3	5107	8219	4	4.54	115.3
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.14	765.5	30.14	765.5	46.5	8.1	85.6	8	9	3	1	2	.....	1	1	6	4193	6748	6	6.36	161.5
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.94	760.5	30.14	765 5	44.0	6.7	84.2	11	1	2	3	4	1	2	.....	7	4117	6626	4	2.93	74.4
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	244	74	29.92	760.0	30.15	765.8	47.4	8.6	70.3	4	5	1	1	8	3	5	1	3	4135	6654	6	2.02	51.3
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.10	764.5	30.12	765.0	53.3	11.8	75.9	5	4	1	2	3	.....	7	8	1	5155	8296	5	6.99	177.6
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.92	760.0	30.13	765.3	47.7	8.7	83.3	5	2	3	3	8	3	3	3	1	4653	7488	5	1.79	45.5
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.66	753.4	30.15	765.8	39.4	4.1	83.6	6	6	2	2	.....	2	9	4	.....	4419	7112	6	1.68	42.7
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.84	757.9	30.12	765.0	44.5	6.9	82.1	8	3	3	2	5	.....	3	3	4	4873	7842	6	3.84	97.5
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.11	764.8	30.11	764.8	57.8	14.3	83.3	4	3	1	2	3	8	4	6	.....	7518	12099	6	3.17	80.5
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.11	764.8	30.10	764.5	57.9	14.4	89.3	6	3	1	1	.....	6	6	8	.....	10256	16505	6	1.95	49.5
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.62	752.3	30.16	766.1	47.9	8.8	81.5	6	1	.....	3	7	4	3	7	....	7293	11737	5	2.25	57.1
San Antonio. *f*	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.32	744.7	30.11	764.8	53.3	11.8	84.4	7	.....	1	1	2	.....	7	7	.....	4876	7847	5	3.87	98.3
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	30.04	763 0	30.05	763.3	62.4	16.9	92.5	11	.....	.....	1	6	2	5	5	1	5976	9617	8	1.54	39.1
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.90	759.4	30.06	763.5	61.5	16.4	84.4	3	2	1	.....	1	8	8	2	6	4464	7184	7	0.41	10.4
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.30	744.2	30.12	765.0	39.4	4.1	78.4	6	7	4	4	1	2	.....	6	1	4931	7936	6	1.79	45.5
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.07	738.4	30.11	764.8	36.3	2.4	79.0	4	3	6	3	.....	.....	.....	7	8	4173	6716	5	3.10	78.7
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.81	757.2	30.13	765.3	42.4	5.8	72.9	4	8	3	1	3	6	2	3	1	5603	9017	6	3.07	78.0
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.55	750.6	30.13	765.3	35.2	1.8	81.2	6	6	6	4	1	4	3	1	.....	4991	8032	6	2.33	59.2
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.54	750.3	30.12	765.0	34.5	1.4	75.5	6	4	3	5	8	2	.....	2	1	6198	9975	6	1.02	25.9
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.14	740.1	30.11	764.8	28.2	— 2.1	83 3	3	4	4	8	4	1	1	6	.....	7091	11412	6	0.66	16.8
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.27	743.4	30.10	764.5	28.3	— 2.1	79.5	3	5	3	8	3	2	2	4	1	4990	8030	7	0.82	20.8
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.44	747.8	30.12	765.0	28.2	— 2.1	78.8	5	6	1	10	1	2	2	2	2	5793	9323	6	0.56	14.2
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.21	741.9	30.10	764.5	24.8	— 4.0	82.2	4	10	2	9	2	1	1	2	.....	6864	11046	6	0.53	13.5
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.23	742.4	30.07	763.8	26.0	— 3.3	77.9	5	6	3	5	5	.....	2	2	3	5269	8480	7	1.14	29.0
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.34	745.2	30.04	763.0	17.1	— 8.3	82.1	1	4	10	9	3	1	.....	2	1	9914	15955	7	0.96	24.4
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.27	743 4	30.05	763.3	16.6	— 8.6	81.6	3	.....	6	7	8	1	1	4	1	10110	16270	6	1.53	38.9
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.65	753.1	30.03	762.7	15.8	— 9.0	84.9	3	4	4	7	7	3	1	1	1	9095	14637	8	0.48	12.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.31	744 5	30.07	763.8	21.2	— 6.0	79.4	1	5	6	4	9	.....	1	4	1	7836	12611	6	1.83	46.5
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.38	746.2	30.09	764.3	23.6	— 4.7	75.5	.....	9	4	7	2	3	2	4	.....	10732	17271	6	0.75	19.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for March, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. S.—Continued.																											
Low'r lakereg.—Con	° ′	° ′																									
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.30	744.2	30.07	763.8	20.8	— 6.2	86.1	8	3	6	4	5	1	1	3	.....	7318	11777	7	0.87	22.1
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.36	745.7	30.08	764.0	23.7	— 4.6	75.2	3	6	7	4	4	1	2	4	.....	7165	11531	6	0.63	16.0
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.34	745.2	30.08	764.0	21.5	— 5.8	71.6	5	9	2	2	8	2	1	2	.....	7891	12699	6	0.66	16.8
Upper lake region																											
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.30	744.2	30.00	762.0	6.4	—14.2	78.2	.....	7	15	2	2	2	2	.....	1	7256	11677	6	1.25	31.7
Escanaba..a	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.33	745 0	30.04	763.0	6.1	—14.4	71.2	8	8	4	3	3	1	.....	2	1	6951	11186	5	2.23	56.6
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.35	745.5	30.05	763.3	19.2	— 7.1	80.3	7	3	.....	6	2	2	1	4	6	7983	12847	7	1.02	25.9
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.34	745.2	30.04	763.0	5.6	—14.7	82.6	.....	9	10	2	1	3	4	.....	2	7332	11800	5	1.21	30.7
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.29	744.0	30.07	763.8	8.0	—13.3	84.5	7	10	6	4	.....	1	.....	1	2	5012	8066	6	2.14	54.4
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	633	193	29.35	745.5	30.06	763.5	14.1	— 9.9	83.1	1	6	7	3	5	1	2	3	3	6575	10581	5	0.71	18.0
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.33	745.0	30.06	763.5	26.6	— 3.0	78.6	7	3	5	7	1	3	.....	2	3	5493	8840	5	0.57	14.5
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.27	743.4	30.05	763.3	20.3	— 6.5	85.1	3	6	7	3	3	1	1	3	4	8698	13998	6	0.21	5.3
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.32	744.7	30.10	764.5	11.6	—11.3	77.0	5	8	4	1	1	.....	4	6	2	5319	8560	6	0.77	19.6
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.17	740 9	30.08	764.0	20.6	— 6.3	75.4	5	8	7	1	2	3	.....	1	4	5642	9083	5	0.55	14.0
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.26	743 2	30.06	763.5	22.2	— 5.4	74.1	7	4	6	2	10	.....	.....	1	1	6703	10787	4	0.51	13.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.42	747.3	30.10	764 5	29.2	— 1.6	73.3	1	10	6	4	.....	.....	6	4	.....	7750	12472	5	0.17	4.3
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.20	741.7	30.14	765.5	27.5	— 2.5	74.9	8	8	3	1	1	2	2	2	4	5776	9295	5	0.04	1.0
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.35	745.5	30.08	764.0	24.6	— 4.1	70.8	2	4	7	3	3	2	1	8	4418	7110	5	0.41	10.4
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.44	747.8	30.12	765.0	28.8	— 1.8	79.7	2	9	9	4	.....	1	2	4	.....	7359	11843	3	0.17	4.3
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.77	756.1	30.14	765.5	36.7	2.6	75.3	7	2	4	4	8	2	1	2	1	7366	11854	5	1.08	27.4
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.42	747.3	30.10	764.5	32.8	0.4	66.5	3	6	5	8	.....	.....	.....	6	3	7493	12059	4	0.17	4.3
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.52	749.8	30.14	765.5	35.7	2.1	74.3	6	5	4	5	4	2	.....	5	.....	9878	15897	4	0.40	10.2
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.27	743.4	30.19	766 8	32.4	0.2	84.3	6	6	.....	1	3	.....	1	1	13	3973	6394	3	0.31	7.9
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28 96	735.6	30.18	766.6	29.5	— 1.4	80.0	8	6	7	4	3	3	.....	.....	.....	8027	12918	3	0.33	8.4
Fort Bennett	N. 44 43	W.100 39	5.17 a.m.	1510	460	28.51	724.1	30.21	767.3	25.2	— 3.8	78.7	7	6	2	.....	2	3	3	4	4	6451	10382	6	0.13	3.3
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.68	728.5	30.16	766.1	23.5	— 4.7	71.0	7	9	1	4	4	3	1	2	.....	7331	11798	6	0.12	3.0
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.80	731.5	30.18	766.6	26.4	— 3.1	76.6	3	4	9	2	1	1	.....	6	5	6109	9831	4	0.25	6.3
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.08	738.6	30.20	767.1	34.0	1.1	81.9	8	4	1	5	6	2	.....	4	1	8279	13324	5	1.27	32.3
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.05	737.9	30.13	765 3	17.5	— 8.1	75.9	13	3	5	4	2	2	1	1	.....	8764	14104	7	0.31	7.9
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.21	741.9	30.17	766.3	10.0	—12.2	87.4	5	13	1	4	3	3	.....	2	.....	7079	12358	7	0.46	11.7
Bismarck	N. 46 47	W.100 38	5.17 a.m.	1694	516	28 22	716.8	30.14	765.5	22.2	— 5.4	87.0	5	8	4	3	.....	2	1	4	4	6515	10485	6	0.18	4.6
Fort Buford	N. 48 00	W.103 56	5.04 a.m.	1930	588	28.01	711.4	30.18	766.6	24.1	— 4.4	83.2	2	10	9	1	1	3	4	.....	.....	8092	13023	6	0.03	0.8
Fort Totten.*b*	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28 42	721.9	30.15	765.8	14.0	—10.0	82.9	4	8	4	2	3	.....	2	4	2	8741	14067	7	0.15	3.8
Northern slope.																											
Fort Assinaboine	N. 48 32	W.109 42	4.41 a.m.	2720	829	27.23	691.6	30.26	768.6	33.7	0.9	78.6	.....	2	2	17	.....	1	2	3	4	6837	14222	5	0.13	3.3
Fort Benton	N. 47 50	W.110 40	4.37 a.m.	2681	817	27.32	693.9	30.30	769.6	32.2	0.1	67.6	.....	3	5	13	.....	.....	.....	1	9	5748	9250	4	0.40	10.2
Fort Custer	N. 45 42	W.107 34	4.50 a.m.	3040	927	26 93	684.0	30.26	768.6	31.7	— 0.2	80.5	1	5	9	4	1	6	2	1	2	6385	10275	5	0.24	6.1
Fort Maginnis	N. 47 12	W.109 10	4.43 a.m.	4340	1323	25.62	650 7	30.22	767.6	29.6	— 1.3	48.6	2	11	9	.....	.....	.....	2	7	.....	10342	16644	5	0.70	17.8
Fort Shaw	N. 47 31	W.111 48	4.33 a.m.	3550	1082	26.44	671.6	30.25	768.3	32.8	0.4	66.3	1	5	8	13	.....	.....	.....	4	.....	7487	12049	4	0.35	8.9
Helena	N. 46 34	W.112 04	4.32 a.m.	4069	1240	25 93	658.6	30.25	768.3	35.0	1.7	69.2	5	3	4	19	.....	.....	.....	.....	.....	5131	8257	5	0.28	7.1
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.94	709.7	30.25	768.3	19.0	— 7.2	92.3	8	5	13	.....	.....	.....	.....	2	2	5256	8459	6	0.02	0.5
Deadwood	N. 44 23	W.103 43	5.05 a.m.	4600	1402	25.40	645.1	30.24	768.1	29.1	— 1.6	76.8	1	2	2	10	1	1	3	10	1	2331	3751	4	3.31	84.1
Cheyenne	N. 41 08	W.104 48	5.01 a.m.	6105	1861	24.01	610.6	30.22	767 6	27.7	— 2.4	74.7	3	18	4	3	.....	.....	.....	3	.....	8621	13874	4	0.51	13.0
North Platte	N. 41 08	W.100 45	5.17 a.m.	2841	866	27.16	689.9	30.20	767.1	25.6	— 1.9	77.9	4	1	9	4	2	.....	.....	1	10	5449	8769	4	0.37	9.4
Middle slope.																											
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	14134	4308	17.66	448.6	30.24	768.1	6.6	—14.1	83.0	3	7	15	1	1	.....	1	3	.....	15050	24220	4	0.88	22.4
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.79	629.7	30.21	767 6	29.0	— 1.7	71.2	1	.....	1	3	18	4	.....	2	2	5547	8927	3	0.97	24.6
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899†	1188†	25 11	603 2	30.16	766.1	27.2	— 2.7	85.2	1	9	12	3	.....	.....	3	1	2	5121	8241	3	0.36	9.1
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.52	699.0	30.21	767 3	31.0	— 0.6	85.8	5	9	8	1	2	2	.....	2	2	7818	12582	4	0.75	19.0
Fort Elliott	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.34	694.4	30.16	766.1	36.4	2.4	82.5	5	9	4	3	6	2	.....	.....	2	7481	12039	3	1.86	47.2
Southern slope.																											
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.91	734.3	30.17	766.3	40.0	4.4	85.8	11	.....	.....	2	9	4	.....	5	.....	9250	14886	5	1.35	34.3
Fort Concho	N. 31 25	W.100 24	5.18 a.m.	1900	579	28.22	716.8	30.16	766.1	44.1	6.7	87.9	4	2	.....	9	6	2	3	5	.....	7002	11267	5	1.74	44.2
Fort Stockton	N. 30 53	W.102 53	5.08 a.m.	3010	917	27 07	687.6	30.12	765.0	46.5	8.1	79.8	4	.....	1	2	14	4	2	2	2	5888	9476	4	7.78	197.6
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25.22	640.6	30.06	763.5	43.9	6.6	76.0	3	.....	5	10	.....	.....	1	4	8	5285	8505	4	1.28	32.5
Southern plateau.																											
Keeler	N. 36 35	W.117 50	4.09 a.m	3622†	1104†	26.38	670.0	.....	.....	44.7	7.1	64 7	6	5	1	7	7	1	.....	2	2	4115	6622	3	0.12	3.0
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	23.31	592.1	30.21	767.3	32.6	0.3	70.0	6	1	2	3	3	3	4	9	.....	5066	8153	4	1.51	38.4
Fort Thomas	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.29	693.2	30.04	763.0	43.5	6.4	76.5	1	.....	3	3	5	6	3	.....	10	.....	.....	5	0.75	19.0
Fort Apache	N. 33 48	W.109 57	4.40 a.m.	5050	1539	25.14	638.5	30.14	765.5	36.2	2.3	81.0	3	.....	.....	3	.....	3	5	16	1	4086	6576	4	2.05	52.1
Fort Grant	N. 32 59	W.109 57	4.40 a.m.	4856	1480	25.28	642.1	30.08	764.0	44.7	7.1	68.1	4	6	1	1	2	7	4	6	.....	4951	7968	4	1.40	35.6
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.77	629.1	30.14	765.5	35.0	1.7	79.9	1	.....	.....	.....	6	.....	1	2	21	3679	5921	2	1.47	37.3
Yuma	N. 32 45	W.114 36	4.22 a.m.	141	43	29.84	757.9	29.96	761.0	57.2	14.0	71.8	1	4	.....	6	.....	2	.....	14	4	4180	6727	4	inap.	inap.
El Paso	N. 31 47	W.106 30	4.54 a.m.	3764	1147	26 31	668.3	30.08	764.0	46.9	8.3	60.6	1	3	12	3	.....	1	1	7	3	3778	6080	4	0.34	8.6
Middle plateau.																											
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25.73	653.5	30.24	768.1	37.7	3.2	69.7	7	2	.....	1	2	6	3	5	5	2770	4458	2	0.64	16.3
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25 74	653.8	30.24	768.1	32.8	0.4	64.1	1	1	.....	9	1	.....	.....	16	1	5308	8542	1	0.20	5.1
Montrose	N. 38 30	W.107 56	4.48 a.m.	5825	1775	24 38	619.2	30.31	769.9	29.0	— 1.7	86.8	1	1	5	2	.....	.....	20	2	.....	4996	8040	3	0.67	17.0
Northern plateau.																											
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.32	693.9	30.24	768.1	36.0	2.2	80.2	.....	5	2	1	.....	12	4	2	5	2792	4492	1	0.03	0.8
Lewiston	N. 46 28	W.117 05	4.12 a.m.	785	239	29.41	747.0	30.23	767.8	39.0	3.9	80.2	.....	.....	.....	2	.....	5	.....	12	12	1616	2601	2	0.53	13.5
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	28.14	714.7	30.28	769.1	36.0	2.2	82.2	2	.....	3	4	3	2	9	2	6	3177	5113	1	0.72	18.3
Dayton	N. 46 19	W.117 56	4.08 a.m.	1683	513	28.42	721.9	30.24	768.1	39.5	4.2	71.5	3	1	1	6	3	3	9	4	1	4611	7420	2	0.05	1.3
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W.124 04	3.44 a.m.	179	55	29 99	761.7	30.19	766.8	47.6	8.7	88.0	9	2	5	.....	9	1	3	1	1	5791	9320	6	1.15	29.2
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	30.16	766.1	30.21	767.3	39.8	4.3	93.8	1	.....	.....	1	3	.....	.....	.....	26	905	1456	4	0.50	12.7
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	30.16	766.1	.....	.....	38.8	3.8	94.2	.....	.....	.....	2	3	12	6	.....	8	.....	.....	5	0.68	17.3
Tatoosh Id.	N. 48 23	W.124 44	3.41 a.m.	86	26	30.06	763.5	30.16	766.1	46.4	8.0	88.5	1	2	1	5	2	5	14	1	.....	9119	14675	6	2.34	59.4
Portland	N. 45 32	W.122 43	3.49 a.m.	67	20	30.10	764 5	30.18	766 6	45.4	7.4	83.7	4	5	2	.....	2	.....	1	2	15	2425	3902	4	0.03	16.0
Roseburg	N. 43 13	W.123 20	3.47 a.m.	523	159	29.61	752.1	30.18	766.6	42.2	5.7	91.9	.....	1	1	1	1	.....	2	2	23	1219	1962	3	0.28	7.1
Mid. Pac. coast reg																											
Cape Mendocino	N. 40 26	W.124 24	3.42 a.m.	637	194	29.42	747 3	30.10	764.5	46.8	8.2	86.9	14	7	.....	.....	3	5	.....	.....	2	14:61	22789	3	0.34	8.6
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.75	755.6	30.09	764.3	51.1	10.6	73.4	14	12	.....	.....	4	.....	1	.....	.....	4494	7232	2	inap.	inap.
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	30.01	762.2	30.06	763.5	52.5	11.4	77.3	4	2	.....	3	11	8	2	.....	1	5312	8549	2	0.08	2.0
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	30.04	763.0	30.09	764.3	53.6	12.0	84.5	4	4	4	11	.....	2	.....	3	3	5497	8846	6	1.01	25.7
S. Pac. coast reg'n.																											
Los Angeles	N. 34 03	W.118 15	4.07 a.m.	339	103	29.69	754.1	30.04	763.0	51.8	11.0	77.5	2	.....	2	.....	.....	1	5	13	8	3561	5731	4	0.01	0.3
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.98	761.5	30.02	762.5	54.0	12.2	80.1	3	3	.....	1	1	1	10	10	2	3660	5890	5	0.73	19.8
Alaska stations.																											
Ft. St. Michael's	N. 63 48	W.161 48	1.13 a.m.	30	9	29.92	760.0	30.00	762 0	6.9	—13.9	83.0	9	.....	.....	.....	.....	3	.....	2	5	12	7221	11621	5	1.07	27.2
Sitka	N. 57 03	W.135 19	2.59 a m.	63	19	29.95	760 7	30.05	763.3	38.9	3.8	85.4	.....	7	3	2	.....	6	1	.....	12	6023	9693	6	12.10	307.3
Unalashka	N. 53 53	W.166 32	0.54 a.m.	13	4	29.62	752.3	29.66	753.4	30.5	— 0.8	79.6	1	10	.....	4	7	5	3	.....	1	9625	15490	9	8.42	213.9
Sub-Series.																											
Behring Island	N. 55 12	E.165 55	11.04 p.m.	20	6	29.92	760.0	29.97	761.2	27.1	— 2.7	90.3	7	1	.....	.....	.....	.....	10	12	1	10490	16882	9	0.25	6.3
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	30.00	762.0	29.95	760 7	75.8	24.3	82.1	3	5	.....	.....	1	.....	.....	21	1	.....	.....	5	2.66	67.6
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	30.02	762.5	72.7	22.6	83.8	12	.....	.....	.....	.....	.....	2	.....	17	2380	3830	1	0.29	7.4
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.03	762.7	29.95	760.7	78.9	26.1	79.0	.....	.....	.....	.....	.....	.....	28	3	.....	.....	.....	5	2.13	54.1
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	75.4	24.1	77.0	.....	.....	.....	.....	.....	.....	3	28	.....	.....	.....	2	0	0

OCEAN SQUARE DATA FOR MARCH, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.94	760.5	74.1	23.4	1						3	27			4.6
12.5 27.5	29.98	761.5	75.2	24.0	1						1	29			4.6
12.5 32.5	30.01	762.2	76.0	24.4							7	24			4.8
12.5 37.5	30.02	762.5	76.9	24.9							23	8			4.7
12.5 42.5	30.03	762.7	77.3	25.2							24	7			5.0
12.5 47.5	30.03	762.7	77.5	25.3					1		25	5			5.1
12.5 52.5	30.02	762.5	78.2	25.7						4	27				4.8
17.5 22.5	29.99	761.7	70.1	21.2							4	27			4.8
17.5 27.5	30.04	763.0	71.4	21.9	2						6	23			4.9
17.5 32.5	30.08	764.0	73.3	22.9	2						16	13			5.1
17.5 37.5	30.09	764.3	74.3	23.5	1						25	5			5.2
17.5 42.5	30.10	764.5	75.2	24.0	1					1	25	4			5.1
17.5 47.5	30.10	764.5	76.2	24.6						2	29				5.0
17.5 52.5	30.08	764.0	76.6	24.8					3	6	22				4.6
17.5 57.5	30.04	763.0	78.7	25.9						7	22	2			4.4
22.5 22.5	30.07	763.8	67.6	19.8	7	1					4	19			4.4
22.5 27.5	30.12	765.0	69.0	20.6	5						6	20			4.7
22.5 32.5	30.16	766.1	70.5	21.4	4						11	16			4.9
22.5 37.5	30.18	766.6	71.9	22.2	1					2	19	9			5.1
22.5 42.5	30.18	766.6	73.0	22.8	1					7	11	9			4.3
22.5 47.5	30.18	766.6	74.2	23.4					2	11	17	1			4.6
22.5 52.5	30.15	765.8	74.7	23.7					9	6	13		1		4.0
22.5 57.5	30.11	764.8	75.2	24.0			1	1	7	10	9		3		3.7
22.5 62.5	30.09	764.3	75.0	23.9	1			1	8	7	11	2	1		3.7
22.5 67.5	30.08	764.0	74.9	23.8				3	8	8	8	4			3.7
22.5 72.5	30.06	763.5	74.6	23.7	1	2	1	2	2	6	13	3	1		3.7
27.5 22.5	30.14	765.5	65.1	18.4	9	1					3	18			4.3
27.5 27.5	30.21	767.3	66.4	19.1	8	1	1				5	16			4.5
27.5 32.5	30.24	768.1	67.9	19.9	6	1				1	9	14			4.6
27.5 37.5	30.27	768.8	68.5	20.3	2	1			2	4	14	8			4.8
27.5 42.5	30.26	768.6	69.9	21.1	2	1	1	1	1	12	3	10			4.6
27.5 47.5	30.23	767.8	71.0	21.7	1	1		1	8	9	9	1	1		4.3
27.5 52.5	30.18	766.6	71.4	21.9	2		1	7	7	8	5	1			4.3
27.5 57.5	30.14	765.5	71.1	21.7	1	2	1	7	10	6	2	2			3.8
27.5 62.5	30.10	764.5	70.9	21.6	5	2	1	10	5	4	4				3.7
27.5 67.5	30.09	764.3	70.9	21.6	4	1	5	8	4	3	4	2			3.8
27.5 72.5	30.07	763.8	70.1	21.2	5	6	3	4	4	3	3	3			3.8
27.5 77.5	30.08	764.0	68.3	20.2	7	3	2	3	4	2	3	7			3.3
32.5 12.5	30.01	762.2	60.0	15.6	13	1	4	3		1	3	6			4.3
32.5 17.5	30.08	764.0	61.0	16.1	12	4	2	3	1		1	7	1		3.5
32.5 22.5	30.18	766.6	62.4	16.9	3	6	3	1		1		17			4.3
32.5 27.5	30.25	768.3	64.2	17.9	5	3	2		1		2	18			4.4
32.5 32.5	30.31	769.9	65.7	18.7	5	2		1	1	1	11	10			4.5
32.5 37.5	30.34	770.6	65.8	18.8	4	1		2	1	11	9	1	1	1	4.7
32.5 42.5	30.30	769.6	66.3	19.1	3	1		4	10	4	4	4	1		4.3
32.5 47.5	30.22	767.6	66.9	19.4	1	2	2	4	10	9	1	2			4.4
32.5 52.5	30.15	765.8	66.6	19.2	2		3	8	13	1		3	1		4.1
32.5 57.5	30.09	764.3	65.4	18.6	2	1	4	10	9	1	2	2			4.3
32.5 62.5	30.06	763.5	63.5	17.5	2	3	7	8	4	1	2	3	1		3.9
32.5 67.5	30.03	762.7	63.1	17.3	2	6	6	6	4	1	3	3			4.2
32.5 72.5	30.01	762.5	60.4	15.8	6	10	5	4	2			3	1		4.8
32.5 77.5	30.07	763.8	52.2	11.2	6	9	3	4	2		1	5	1		4.6
37.5 12.5	29.98	761.5	57.3	14.1	6	2	5	4			2	12			4.8
37.5 17.5	30.09	764.3	57.8	14.3	6	4	6				2	13			5.2
37.5 22.5	30.20	767.1	58.5	14.7	5	4	2	1				18	1		4.5
37.5 27.5	30.30	769.6	60.0	15.6	7	2	1	3			1	14	3		3.8
37.5 32.5	30.36	771.1	61.7	16.5	6	1	3	3		1	7	7	3		4.1
37.5 37.5	30.34	770.6	62.6	17.0	3	1	1	8	7	3	6	2			4.4
37.5 42.5	30.28	769.1	62.2	16.8	2	2	4	9	7	5	1		1		4.8
37.5 47.5	30.18	766.6	60.9	16.1	4	2	3	11	8	3					5.1
37.5 52.5	30.09	764.3	59.8	15.4	4	1	4	11	8	2		1			5.2
37.5 57.5	30.00	762.0	58.2	14.0		5	7	9	7	1		2			5.3
37.5 62.5	29.96	761.0	54.0	12.2	4	6	5	9	4	1	1	1			5.8
37.5 67.5	29.95	760.7	50.1	10.1	8	7	4	4	3	1	1	3			5.2
37.5 72.5	30.00	762.0	43.6	6.4	8	8	2	1	2		1	0	2	1	5.1
42.5 12.5	30.02	762.5	54.9	12.7	3	1	3	3			1	20			5.1
42.5 17.5	30.10	764.5	55.5	13.1	6	1	5					19			5.6
42.5 22.5	30.24	768.1	55.9	13.3	8	1	5				2	15			4.9
42.5 27.5	30.31	769.9	56.9	13.8	4	1	4	5	3	1	3	9	1		4.7
42.5 32.5	30.34	770.6	57.7	14.3	6	1	2	9	5	3	3	2			4.5
42.5 37.5	30.27	768.8	57.9	14.4	5		4	11	4	5	1	1			5.0
42.5 42.5	30.21	767.3	56.3	13.5	2	2	2	7	12	2	1	2	1		5.1
42.5 47.5	30.10	764.5	49.8	9.9	3	3	2	10	9	2	1	1			4.7
42.5 52.5	30.01	762.2	45.1	7.3	1	6	6	6	8	2	2	1			4.8
42.5 57.5	29.94	760.5	43.4	6.3	6	8	6	3	3	4	1				5.3
42.5 62.5	29.93	760.2	35.0	1.7	4	9	3	3	3	2	4	3			4.7
42.5 67.5	29.98	761.5	27.0	— 2.8	5	6	4	2	5	1	2	4	2		4.3
47.5 12.5	30.09	764.3	52.3	11.3	7	1	2	3	1		5	11			5.2
47.5 17.5	30.20	767.1	52.6	11.4	9	3	3	4		1	3	8			5.2
47.5 22.5	30.27	768.8	53.0	11.7	7	3	5	5	1	1	4	5			5.1
47.5 27.5	30.28	769.1	53.3	11.8	3	5	4	4	6	3	3	2	1		5.0
47.5 32.5	30.25	768.3	52.3	11.3	3	2	3	12	5		3	2	1		4.8
47.5 37.5	30.18	766.6	50.8	10.4	1	3	7	10	7			2	1		4.7
47.5 42.5	30.10	764.5	47.0	8.3	1	4	4	15	7						5.4
47.5 47.5	29.98	761.5	37.7	3.2	1	4	3	15	7			1			4.7
52.5 12.5	30.14	765.5	47.7	8.7	5	7	3	4	4	2	1	5			5.2
52.5 17.5	30.15	765.8	48.2	9.0	1	8	4	7	4	1		6			5.4
52.5 22.5	30.17	766.3	47.5	8.6	1	5	6	8	3		2	6			5.3
52.5 27.5	30.16	766.1	46.7	8.2	5	3	8	9	4	2					5.5
52.5 32.5	30.12	765.0	45.6	7.6	3	3	4	16	3	1				1	5.5
52.5 37.5	30.10	764.5	44.7	7.1	1	3	1	11	5	1				9	5.5
52.5 42.5															
52.5 47.5															
57.5 12.5	29.98	761.5	42.8	6.0	3	8	3	10		3		4			5.5
57.5 17.5	30.01	762.2	41.9	5.5	2	8	6	9		2		4			5.4
57.5 22.5	30.02	762.5	41.3	5.2		10	4	9		1	2	2	1	2	5.5
57.5 27.5	30.02	762.5	39.9	4.4		3	8	9	3	2		2		4	5.6
57.5 32.5															
57.5 37.5															
57.5 42.5															
57.5 47.5															

RETARDED DATA.—UPERNAVIK, GREENLAND (N. 72° 47′, W. 56° 00′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount. Upper.	Clouds. Amount. Lower.	Clouds. Direction. Upper.	Clouds. Direction. Lower.	Rainfall or melted snow in past 24 hours.		WEATHER.
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metres per sec.	0–10	0–10	0–10	From.	From.	Inch.	Mill	
1884.																		
October 1	29.67	753.6	29.72	754.8	28.2	— 2.1	79	s.			6		10					
2	29.74	755.3	29.78	756.5	18.3	— 7.6	89	n.			0		10					snowing.
3	29.79	756.6	29.84	757.8	16.2	— 8.8	78	e.			2		4					
4	29 49	749.1	29.54	750.3	18.3	— 7.6	86	e.			2		10					
5	29.65	753.2	29.70	754.4	17.8	— 7.9	89	n.			2		10					
6	30.13	765.2	30.17	766.4	27.0	— 2.8	83	s.			7		10					snowing.
7	29.98	761.6	30.03	762.8	33.1	0.6	98	sse.			8		10					
8	30.29	769.4	30.34	770.6	32.7	0.4	100	sw.			4		10					
9	30.02	762.4	30.06	763.6	28.9	— 1.7	86	e.			2		10					
10	29.71	755.4	29.79	756 6	35.1	1.7	70	e.			2		4					
11	29.76	755.8	29.80	757.0	32.4	0.2	96	e.			2		10					
12	29.03	737.4	29.08	738.6	32.7	0.4	90	e.			2		10					
13	29.43	747.4	29.47	748.6	32.0	0.0	89	s.			6		10					snowing.
14	29.63	752.6	29.68	753.8	26.4	— 3.1	89	w.			2		10					snowing.
15	29.73	755.1	29.78	756.3	22.1	— 5.5	85	e.			3		6					
16	29.56	750.9	29.61	752.1	23.5	— 4.7	79	e.			2		10					
17	29.56	750.7	29.60	751.9	19.9	— 6.7	68	e.			4		8					
18	29.07	738.4	29.12	739.6	25.0	— 3.9	73	e.			2		10					
19	29.22	742.2	29.27	743.4	28.2	— 2.1	96	e.			2		10					snowing.
20	28.71	729.3	28.76	730.5	25.2	— 3.8	84	e.			2		10					
21	29.02	737.0	29.06	738.2	24.6	— 4.1	87	wsw.			4		10					
22	29.19	741.4	29.24	742.6	22.3	— 5.4	93	calm			0		10					
23	29.42	747.3	29.47	748.5	18.5	— 7.5	83	e.			4		4					
24	29.23	742.4	29.28	743.6	23.2	— 4.9	86	nw.			6		10					
25	29.52	749.7	29.56	750.9	22.8	— 5.1	80	s.			7		10					
26	29.97	761.2	30.02	762.4	18.1	— 7.7	78	e.			2		3					
27	29.91	759.8	29.96	761.0	13.8	—10.1	83	e.			2		10					
28	29.70	754.3	29.74	755.5	14.9	— 9.5	81	calm			0		10					
29	29.46	748.3	29.51	749.5	13.1	—10.5	93	wnw.			6		10					snowing.
30	29.43	747.4	29.47	748.6	5.0	—15.0	100	e.			2		3					
31	29.65	753.0	29.69	754.2	5.7	—14.6	96	n.			2		10					
Mean	29.57	751.1	29.62	752.3	22.8	— 5.1	86						9					
November 1	29.92	760.0	29.97	761.2	10.6	—11.9	100	nw.			2		10					foggy.
2	30.03	762.8	30.08	764.0	14.9	— 9.5	81	se.			4		10					
3	29.94	760.4	29.98	761.6	4.5	—15.3	90	e.			2		10					hazy.
4	29.87	758.6	29.91	759.8	7.2	—13.8	96	e.			2		8					
5	29.85	758.2	29.90	759.4	7.5	—13.6	96	nw.			2		10					foggy.
6	29.84	758.0	29.89	759.2	7.0	—13.9	83	e.			2		10					
7	29.67	753.5	29.71	754.7	4.3	—15.4	95	e.			4		10					
8	29.35	745.5	29.40	746.7	5.0	—15.0	87	sw.			6		10					snowing.
9	29.38	746.3	29.43	747.5	1.4	—17.0	90	wsw.			4		10					snowing.
10	29.60	751.7	29.64	752.9	— 4.5	—20.3	100	e.			2		0					
11	28.78	730.9	28.82	732.1	— 0.4	—18.0	95	calm			0		10					foggy.
12	29.14	740.1	29.19	741.3	5.0	—15.0	96	sw.			2		10					foggy.
13	29.50	749.2	29.54	750.4	0.4	—14.2	83	ne.			2		6					
14	29.72	754.9	29.77	756.1	5.7	—14.6	91	e.			2		10					hazy.
15	29.70	754.3	29.74	755.5	— 1.8	—18.8	100	e.			2		3					
16	29.93	760.3	29.98	761.5	— 1.7	—18.7		e.			2		0					
17	29.61	752.1	29.66	753.3	16.3	— 8.7	64	calm			0		10					
18	29.48	748.8	29.53	750.0	27.9	— 2.3	96	s.			8		10					snowing.
19	30.28	769.1	30.33	770.3	13.8	—10.1	100	e.			2		2					
20	29.78	756.5	29.83	757.7	31.5	— 0.3	100	ssw.			7		10					snowing.
21	30.33	770.3	30.37	771.5	10.8	—11.8	100	calm			0		3					
22	30.27	768.8	30.32	770.0	3.4	—15.9	90	ne.			2		3					
23	30.04	763.0	30.09	764.2	5.4	—14.8	87	e.			2		0					
24	29.95	760.7	30.00	761.9	13.1	—10.5	93	e.			2		3					
25	30.08	763.9	30.12	765.1	21.9	— 5.6	82	calm			0		0					
26	29.48	748.9	29.53	750.1	24.6	— 4.1	91	e.			2		0					
27	30.34	770.6	30.39	771.8	21.9	— 5.6	93	e.			2		2					
28	29.22	742.1	29.26	743.3	21.0	— 6.1	87	e.			2		0					
29	29.43	747.5	29.48	748.7	23.9	— 4.5	100	sw.			2		10					snowing.
30	29.22	742.3	29.27	743.5	16.7	— 8.5	82	e.			4		3					
Mean	29.72	755.0	29.73	755.2	10.8	—11.8	91						6					
December 1	28.86	733.0	28.91	734.2	10.0	—12.2		e.			2		0					
2	29.08	738.6	29.13	739.8	5.4	—14.8		ne.			2		3					
3	29.10	739.0	29.14	740.2	— 2.2	—19.0		n.			4		8					
4	29.24	742.6	29.28	743.8	— 1.8	—18.8		e.			2		10					
5	29.36	745.8	29.41	747.0	— 3.6	—19.8		calm			0		10					
6	29.54	750.3	29.59	751.5	— 0.2	—17.9		e.			2		10					
7	29.64	752.8	29.69	754.0	3.6	—15.8		e.			2		10					
8	29.78	756.4	29.83	757.6	— 0.6	—18.1		e.			2		10					
9	29.56	750.8	29.61	752.0	— 5.8	—21.0		e.			2		8					hazy.
10	29.50	749.4	29.55	750.6	3.4	—15.9		e.			2		10					
11	29.54	750.3	29.59	751.5	— 1.5	—18.6		e.			2		4					
12	29.22	742.3	29.27	743.5	— 2.6	—19.2		sw.			2		10					
13	29.34	745.1	29.38	746.3	— 5.4	—21.8		e.			2		8					hazy.
14	29.45	748.0	29.50	749.2	— 4.5	—20.3		ne.			2		10					snowing.
15	29.69	754.1	29.74	755.3	—12 6	—24.8		calm			0		0					
16	29.87	758.6	29.91	759.8	— 7.8	—22.1		e.			2		0					
17	29.52	749.8	29.57	751.0	— 7.8	—22.1		calm			0		0					
18	29.39	746.6	29.44	747.8	— 4.5	—20.3		calm			0		10					
19	29.53	750.1	29.58	751.3	— 4.2	—20.1		sw.			2		10					
20	29.70	754.4	29.75	755.6	— 6.9	—21.6		calm			0		10					snowing.
21	28.79	731.3	28.84	732.5	— 8.5	—22.5		ne.			2		0					
22	29.52	749.9	29.57	751.1	— 5.0	—20.9		sw.			6		10					
23	29.53	750.0	29.58	751.2	0.5	—17.5		sw.			2		8					hazy.
24	28.68	728.5	28.73	729.7	— 0.2	—17.9		ne.			5		0					
25	29.35	745.5	29.40	746.7	—10.3	—23.5		sw.			7		4					
26	29.84	758.0	29.89	759.2	— 6.3	—21.3		e.			2		2					
27	29.58	751.2	29.62	752.4	— 8.5	—22.5		e.			2		0					
28	29.82	757.5	29.87	758.7	— 8.3	—22.4		e.			2		0					
29	30.14	765.5	30.19	766.7	—16.8	—27.1		calm			0		0					
30	29.85	758.2	29.90	759.4	—20.9	—29.4		s.			2		0					
31	29.50	749.4	29.55	750.6	—21.6	—29.8		calm			0		0					
Mean	29.47	748.5	29.52	749.7	— 5.1	—20.6							5					

GODTHAAB, GREENLAND (N. 64° 11′, W. 51° 46′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
												Upper.	Lower.	Upper.	Lower.			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metres per sec.	0–10	0–10	0–10	From.	From.	Inch.	Mill.	
1884.																		
September 1	29.93	760.1	29.97	761.2	35.6	2.0	95	s.			4		10					foggy.
2	29.70	754.4	29 74	755.5	39.4	4.1	70	ene.			4		10					raining.
3	29.37	745.9	29.41	747.0	39.4	4.1	78	calm			0		10					hazy.
4	29.55	750.5	29.59	751.6	39.2	4.0	81	calm			0		9					foggy.
5	29.61	752.2	29.66	753.3	34.0	1.1	78	nw.			2		10					foggy.
6	29.68	753.9	29.72	755.0	33.4	0.8	63	nnw.			2		10					foggy.
7	29.62	752.4	29.67	753.5	36.7	2.6	78	nne.			4		0					
8	29.42	747.3	29.47	748.4	38.8	3.8	69	wnw.			2		10					hazy.
9	29.28	743.6	29.32	744.7	35.8	2.1	96	nne.			4		0					
10	29.28	743.7	29.32	744.8	36.3	2.4		ene.			2		9					
11					(35.6)	(2.0)												
12					(32.0)	(0.0)												
13	29.79	756.6	29.83	757.7	33.4	0.8	89	nne.			2		3					
14	29.24	742.7	29.28	743.8	42.4	5.8	61	ene.			2		0					hazy.
15					(37.4)	(3.0)												
16	29.36	745.7	29.40	746.8	31.6	— 0.2	100	calm			0		10					
17	29.34	745.3	29.39	746.4	33.1	0.6	100	sw.			4		10					rain & snow.
18					(39.2)	(4.0)												
19	29.48	748.7	29.52	749.8	33.1	0.6	98	s.			4		10					raining.
20	29.82	757.5	29.87	758.6	32.9	0.5	85	sw.			4		10					snowing.
21	29.63	752.5	29.67	753.6	35.2	1.8	96	s.			4		10					rain & snow.
22	29.56	750.8	29.60	751.9	35.1	1.7	98	s.			3		10					raining.
23	29.54	750.2	29.58	751.3	34.5	1.4	91	calm			0		10					hazy.
24	29.30	744.3	29.35	745.4	33.3	0.7	72	n.			4		9					hazy.
25	29.58	751.3	29.62	752.4	30.6	— 0.8	87	n.			2		8					
26	29.33	744.9	29.37	746.0	28.6	— 1.9	65	ne.			4		1					
27	29.33	745.0	29.37	746.1	29.8	— 1.2	63	nne.			3		10					snow & hail.
28	29.50	749.3	29.54	750.4	27.3	— 2.6	71	nne.			4		6					
29	29.60	751.8	29.64	752.9	25.9	— 3.4	66	ne.			4		0					hazy.
30	29.76	756.0	29.81	757.1	27.3	— 2.6	59	ene.			4		0					
Mean	29.52	749.9	29.57	751.0	34.2	1.2	80						7					
October 1	29.70	754.3	29.74	755.4	27.0	— 2.8	66	ene.			2		7					
2	29.66	753.3	29.70	754.4	29.7	— 1.3	86	s.			3		9					snow & hail.
3	29.54	750.3	29.58	751.4	26.4	— 3.1	82	ne.			2		10					hazy.
4	29.20	741.6	29.24	742.7	23.0	— 5.0	86	calm			0		10					hazy.
5	29.80	756.9	29.84	758.0	26.4	— 3.1	72	n.			2		10					hazy.
6	30.47	773.9	30.51	775.0	27.1	— 2.7	85	calm			0		8					
7	30.44	773.1	30.48	774.2	30.0	— 1.1	69	nne.			4		6					
8	30.26	768.6	30.30	769.7	28.9	— 1.7	80	ese.			2		1					
9	29.63	752.6	29.67	753.7	38.3	3.5	67	ene.			4		9					hazy.
10	29.59	751.5	29.63	752.6	38.3	3.5	90	ene.			2		10					raining.
11	29.71	754.5	29.75	755.6	34.2	1.2	83	s.			2		8					hazy.
12	29.31	744.4	29.35	745.5	32.4	0.2	90	wsw.			2		10					snowing.
13	29.32	744.7	29.36	745.8	21.2	— 6.0	93	ene.			2		1					
14	29.75	755.6	29.79	756.7	30.4	— 0.9	90	sse.			2		10					snowing.
15	29.36	745.8	29.41	746.9	23.9	— 4.5	84	ne.			4		2					
16	29.76	755.8	29.80	756.9	25.2	— 3.8	91	calm			0		9					snowing.
17	28.86	733.1	28.91	734.2	25.3	— 3.7	76	ene.			4		10					hazy.
18	29.24	742.8	29.29	743.9	31.3	— 0.4	79	s.			4		8					
19	29.29	744.0	29.34	745.1	31.6	— 0.2	98	ne.			2		10					snowing.
20	28.98	736.2	29.03	737.3	29.8	— 1.2	88	w.			4		10					snowing.
21	28.96	735.6	29.00	736.7	26.1	— 3.3	80	ne.			2		10					hazy.
22	29.45	748.1	29.50	749.2	21.2	— 6.0	69	nne.			3		10					hazy.
23	29.35	745.5	29.39	746.6	25.3	— 3.7	65	ene.			4		10					hazy.
24	29.40	746.8	29.45	747.9	24.4	— 4.2	97	w.			4		10					snowing.
25	29.65	753.2	29.70	754.3	22.1	— 5.5	100	nw.			4		10					snowing.
26	30.02	762.5	30.06	763.6	21.6	— 5.8	100	s.			4		10					snowing.
27	29.75	755.7	29.80	756.8	18.3	— 7.6	83	ene.			2		10					
28	29.69	754.0	29.73	755.1	12.2	—11.0	89	ene.			2		0					
29	29.58	751.2	29.62	752.3	11.7	—11.3	85	nne.			4		1					
30	29.68	753.9	29.72	755.0	16.2	— 8.8	69	nne.			4		3					
31	29.79	756.7	29.84	757.8	9.5	—12.5	85	ene.			4		3					
Mean	29.59	751.5	29.63	752.6	25.5	— 3.6	83						8					
November 1	29.99	761.7	30.03	762.8	12.0	—11.1	79	ene.			4		1					
2	29.80	757.0	29.85	758.1	13.5	—10.3	90	ene.			4		0					
3	29.72	754.9	29.76	756.0	12.6	—10.7	80	ene.			3		0					
4	29.75	755.6	29.79	756.7	15.4	— 9.2	78	ene.			2		10					
5	29.85	758.2	29.89	759.3	15.3	— 9.3	81	nne.			4		4					
6	29.91	759.6	29.95	760.7	11.7	—11.3	85	ene.			4		5					
7	29.27	743.5	29.32	744.6	9.7	—12.4	77	nne.			6		1					
8	29.24	742.6	29.28	743.7	10.8	—11.8	89	nne.			4		0					
9	29.37	746.1	29.42	747.2	9.3	—12.6	96	e.			2		10					hazy.
10	29.21	742.0	29.26	743.1	8.6	—13.0	88	ne.			4		2					
11	28.89	733.9	28.94	735.0	11.7	—11.3	89	nne.			4		4					
12	29.24	742.7	29.28	743.8	11.1	—11.6	78	nne.			3		10					
13	29.51	749.5	29.55	750.6	8.6	—13.0	96	nne.			4		1					
14	29.65	753.2	29.70	754.3	7.3	—13.7	88	nne.			4		0					
15	29.58	751.3	29.62	752.4	11.5	—11.4	78	ene.			2		10					
16	29.14	740.1	29.18	741.2	27.5	— 2.5	93	ene.			5		10					raining.
17	29.18	741.2	29.22	742.3	35.8	2.1	80	ene.			2		10					
18	29.80	757.0	29.85	758.1	21.2	— 6.0		s.			7		10					snow & hail.
19	29.83	757.6	29.87	758.7	30.9	— 0.6		ene.			4		10					snowing.
20	30.16	766.1	30.21	767.2	27.3	— 2.6	100	ene.			2		10					snowing.
21	30.02	762.6	30.07	763.7	30.7	— 0.7	100	nne.			4		10					
22	29.73	755.1	29.77	756.2	36.1	2.3	84	se.			2		9					
23	29.63	752.5	29.67	753.6	29.7	— 1.3	92	ne.			2		2					
24	29.77	756.2	29.82	757.3	29.8	— 1.2	88	nne.			4		1					
25	29.89	759.2	29.93	760.3	30.0	— 1.1	92	ene.			4		2					
26	29.59	751.5	29.63	752.6	26.2	— 3.2		s.			7		10					snowing.
27	30.03	762.7	30.07	763.8	18.9	— 7.3		ene.			4		10					
28	28.93	734.8	28.97	735.9	(36.5)	(2.5)		s.			4		10					raining.
29	29.58	751.4	29.63	752.5	24.1	— 4.4		ssw.			5		10					snowing.
30	28.95	735.3	28.99	736.4	23.2	— 4 9		ene.			4		10					
Mean	29.58	751.2	29.62	752.3	19 9	— 6.7	87						6					

REVIEW.

INTERNATIONAL METEOROLOGY FOR MARCH, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of March, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, mean time:

The area of lowest mean pressure in March, 1885, is located over the northern portion of the Scandinavian Peninsula and the ocean to the northward, where the pressure ranges from 29.56 (750.8), at Gjæsvær, to 29.79 (756.7), at Stykkisholm, Iceland; to the southeast of Gjæsvær the barometric gradient is much steeper, the pressure increasing to 29.84 (757.9), at Archangel.

Two additional regions of low mean pressure appear on the chart and occupy, respectively, British India and the Aleutian Islands. Over British India the pressures range from 29.73 (755.1) to 29.80 (756.9), exhibiting a very similar distribution of pressure to that presented on the chart for March, 1884. The low area over the Aleutian Islands is represented by the isobar of 29.7 (754.4), within which the pressure is 29.66 (753.4), at Unalaschka. The nearest stations on the Asiatic and Alaskan coasts have pressures about 30.00 (762.0). A similar but more extended area of low pressure occupied the Aleutian Islands in March, 1884.

The area of highest mean pressure for the month has its centre in Asia, and is represented by the isobar of 30.4 (772.1). The highest mean pressure reported is 30.42 (772.7), at Yeniseisk; the gradient remaining, as in the preceding month, steep to the eastward and gradual to the westward.

Two additional areas of high mean pressure are found in the northern hemisphere, one, represented by the isobar of 30.3 (769.6), in the Atlantic, and the other in the North American continent, where the pressures range from 30.10 (764.5), in the southeast, to 30.25 (768.3), in the northwest.

On comparison with the chart for the preceding month (February, 1885), it will be seen that the low area which occupied the northwest coast of the British Isles has moved northeastward, and its centre is probably beyond the limits of observation to the northward. Following this movement of the low area, the small area of high mean pressure occupying the Atlantic between N. 20° and 30° in March has extended to the northward, with pressure increasing from 30.10 (764.5) to 30.35 (770.9). In all parts of the United States, except on the Pacific coast, there has been an increase of pressure instead of the usual decrease in March. This is shown on the chart by the extension of the isobar of 30.2 (767.1) southwestward to the ninety-fifth meridian, and the isobar of 30.1 (764.5) from the ninety-fifth meridian in February to the eightieth meridian in March. An increase of pressure has also taken place throughout the Candian Provinces.

In the eastern hemisphere the subsidence of the high area in the centre of Asia from 30.6 (777.2) in February to 30.4 (772.1), has resulted in a corresponding decrease in pressure throughout eastern and central Europe. Over France and the British Isles the pressure has risen from .10 inch to .50 inch; over the Iberian Peninsula, except on the northern border, a decrease has occurred. In India and Japan, as well as in the interior of Asia, the mean pressure for March shows a diminution from that shown on the February chart.

Compared with the corresponding month of previous years, the mean atmospheric pressure during March, 1885, was above the normal throughout all portions of the United States. In Canada the pressure was about normal throughout the Dominion, being slightly above in the Lake region and in the Maritime Provinces, but below in Quebec and the Gulf of Saint Lawrence.

In Central Europe and the British Isles the pressure was above the normal, but below the normal in the Scandinavian, Iberian, and Italian Peninsulas.

The following table shows the mean pressure and mean temperature for March, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Mar. mean of 8 (1877–'84) years.	Mar., 1885.	Departure.	Mar. mean of 8 (1877–'84) years.	Mar., 1885.	Departure.
				°	°	°
Austro-Hungary	29.95	29.95	normal.	44.7	46.7	+ 2.0
British Isles	29.96	30.09	+ 0.13	45.7	45.1	− 0.6
Denmark	29.91	29.95	+ 0.04	30.6	39.2	+ 2.6
France	30.01	30.02	+ 0.01	52.2	50.0	− 2.2
Germany	29.99	30.00	+ 0.01	42.0	42.4	+ 0.4
India *	29.75	29.80	+ 0.05	84.5	85.5	+ 1.0
Italy	29.94	29.92	− 0.02	51.9	55.8	+ 0.9
Norway	29.81	29.76	− 0.05	35.4	34.2	− 1.2
Russia	29.92	29.94	+ 0.02	33.3	35.2	+ 1.9
Spain	30.02	29.98	− 0.04	57.9	51.4	− 6.5
Sweden	29.84	29.82	− 0.02	30.6	32.6	+ 2.0

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of March, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Mar. mean of 8 (1877–'84) years.	Mar., 1885.	Departure.	Mar. mean of 8 (1877–'84) years.	Mar., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.01	30.12	+ 0.11	40.3	39.9	− 0.4
Archangel, Russia	29.75	29.84	+ 0.09	22.8	28.6	+ 5.8
Angra, Azores						
Athens, Greece	29.96	29.93	− 0.03	58.8	61.3	+ 2.5
Beirut, Turkey in Asia	29.95	29.90	− 0.05	64.1	65.5	+ 1.4
Barnaul, Siberia, Asia	30.27	30.29	+ 0.02	22.0	21.0	− 1.0
Bridgetown, Barbadoes	29.94	29.92	− 0.02	80.6	84.2	+ 3.6
Cape Town, Cape of Good Hope						
Cagliari, Sardinia, Italy				58.8		
Ekaterinburg, Russia	29.99	30.16	+ 0.17	26.0	28.9	+ 2.9
Fort Napier, Natal, South Africa	29.84	29.93	+ 0.09	77.1	79.7	+ 2.6
Freetown, Sierra Leone*	29.81	29.80	− 0.01	83.9	83.6	− 3.3
Funchal, Madeira Islands	30.09	30.06	− 0.03	63.4	60.8	− 2.6
Gibraltar	30.02			61.6	58.5	− 3.1
Godthaab, Greenland	29.79			17.0		
Havana, Cuba, W. I	30.02	30.05	+ 0.03	71.9	68.4	− 3.5
Malta, Mediterranean Sea	29.93	29.88	− 0.05	61.0	60.7	− 0.3
Melbourne, New South Wales	30.05	29.99	− 0.06	62.3	59.6	− 2.7
Mauritius, Indian Ocean	29.88	29.88	normal.	80.9	81.0	+ 0.1
Mexico, Mexico†				50.1	50.9	+ 0.8
Nassau, Bahamas, W. I*	30.06	30.08	+ 0.02	72.8	71.9	− 0.9
Nikolaevsk on the Amoor, Asia				7.8	10.2	+ 2.4
Paramaribo, D. Guiana, S. A	29.94	29.95	+ 0.01	78.7	78.9	+ 0.2
Pekin, China	30.19			42.3		
Ponta Delgada, Azores	30.14	30.30	+ 0.16	60.7	58.8	− 1.9
Sandwick Manse, Orkney Islands	29.83	29.95	+ 0.12	40.4	40.1	− 0.3
San Juan de Puerto Rico, W. I*	30.01	30.05	+ 0.04	75.3	75.9	+ 0.6
Stykkisholm, Iceland	29.69	29.79	+ 0.10	20.4	27.3	+ 0.9
Tashkend, Toorkistan, Asia	30.11	30.01	− 0.10	53.5	53.8	+ 0.3
Thorshavn, Færöe Islands	29.79	29.83	+ 0.04	39.1	38.7	− 0.4
Tiflis, Russia	29.98	30.02	+ 0.04	52.2	50.0	− 2.2
Tokei, Japan*	30.01	29.98	− 0.03	42.3	39.6	− 2.7
Yeniseisk, Siberia, Asia	30.24	30.42	+ 0.18	21.9	18.9	− 3.0
York Factory, B. A						
Zi-Ka-Wei, China	30.19	30.18	− 0.01	44.3	44.1	− 0.2

* Means for seven years only. † Means for six years only.

In the United States the mean temperature of the air was exceptionally low in the districts east of the Mississippi River and also in the west Gulf states and southern slope, while in districts to the westward the normal was exceeded. The greatest departures below the normal occurred in the Lake region and Ohio Valley, where the departures exceeded 10° Fahr. The temperature in Canada was everywhere below the normal, the deficiency being greatest in Ontario, where it amounted to over 11° Fahr. In Europe the variations from the normal were slight throughout Germany, while in France and the Iberian Peninsula the temperature was decidedly below the average. In India the normal was generally exceeded.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Manila, Philippine Islands	79.0	26.1	Akmolinski, Siberia	19.0	— 7.2
Bluefields, Nicaragua, C. A.	75.8	24.3	Fort Saint Michael's, Alaska	6.9	—13.9
Paramaribo, Dutch Guiana	78.9	26.1	Mackinaw City, Michigan	5.6	—14.7
Springbok, Cape Colony	81.3	27.4	Nerchinsk, Siberia	11.1	—11.6
Bellary, India	95.2	35.1	Rockliffe, Canada	— 5.6	—20.9

NOTE.—Report from York Factory, B. A., not received.

In the United States the prevailing winds were as follows: In the upper Mississippi and Missouri valleys, east Gulf states, and Tennessee they were from the northwest; in the Lake region, Ohio Valley, and on the Atlantic coast, from the northwest to southwest, and in the remaining districts variable. In Canada they were mostly westerly. Over the Atlantic Ocean the winds were largely controlled by the area of high pressure prevailing east of the sixtieth meridian and conformed to Buys Ballot's law; near the coast of the United States the winds were mostly northwesterly. In France north to east winds prevailed, of more than ordinary intensity. Over the Scandinavian Peninsula southerly winds, and in central Europe westerly winds prevailed. In Japan north to west winds prevailed.

The precipitation during March, 1885, was less than the average in nearly all districts of the United States and throughout the Canadian Provinces. In the British Isles a deficiency of precipitation was reported from the majority of stations.

TRACKS OF AREAS OF LOW PRESSURE FOR MARCH, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during March, 1885. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data has been used, viz.: chart i for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The chart for March, 1885, shows the approximate paths of forty areas of low pressure. Ten depressions (numbers i to x, inclusive) are traced over the North American continent. These areas of low pressure, for the most part, advanced from the British Northwest Territories in an east-southeasterly direction towards the Lake region and thence to the Atlantic coast. The origin of one depression (number ii) is traced back to the Alaskan coast, where the pressure at Sitka was 29.40 (746.7) on the 1st; on the 2d the pressure at Sitka had risen to 30.17 (766.3), while the isobar of 29.4 (746.7) had moved southeastward to the one hundredth and fourth meridian. Only three of these ten areas of low pressure, namely, numbers iv, vi, and ix, had their path south of the fortieth parallel; numbers iv and ix moved easterly and passed into the Atlantic near Cape Hatteras; number vi first appeared in northern Dakota and moved rapidly southward to the Gulf of Mexico, where its course turned eastward; it then skirted the southern border of the Gulf States and passed into the Atlantic across northern Florida. These ten areas are less than the average number charted in the United States and Canada for March, and were in general of only moderate or slight intensity. Detailed descriptions of these depressions will be found under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for March, 1885.

Only eight areas of low pressure, namely, numbers xi to xviii, inclusive, are traced over the Atlantic ocean; four of these, viz., numbers xiv, xv, xvi, and xviii, being continuations of low areas which had previously passed over the American continent. The course of all of these areas, except that of number xvi, was northeastward, and the positions of the tracks are all located within a strip of seven degrees width bordering the coast. Only one area of low pressure, viz., number xi, is traced across the ocean to the European coast. By referring to chart ii for March, 1885, it will be seen that these tracks of low areas lie to the north and northwest of the area of high pressure occupying the Atlantic Ocean and extending northeastward over the British Isles; this extensive high area evidently checked the progress of the depressions after reaching the middle Atlantic, and probably deflected them northward. The absence of observations to the west and northwest of the British Isles prevents their extension northward and their possible connection with the low areas appearing in the vicinity of Iceland on the 13th, 15th, 24th, and 28th of the month. Of the low areas charted in the Atlantic, number xvii was of the greatest severity; numerous vessels reported barometer as low as 29.05 (737.9), with strong gales. During its passage the wind at Mount Washington, New Hampshire, reached a velocity of one hundred and twenty-eight miles per hour on the 21st, and the temperature fell to—47° Fahr. (—43°.9 Cent.). Detailed descriptions of the Atlantic storms, with special reports, will be found under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for March, 1885.

Fifteen areas of low pressure viz., numbers xix to xxxiii, inclusive, are traced over the Greenland Sea and the continent of Europe, one (number xxi) being a continuation of one of the Atlantic low areas above described. Eight of these low areas are charted over the Scandinavian Peninsula and the Greenland Sea. Most of these passed over Scandinavia in a somewhat southerly direction and then, for the most part, turned towards the White Sea. The course of one (number xxiv) differed from this type by taking a course southeast to the fifty-fourth parallel and then passing eastward on this parallel to the border of Asia, where its further course can not be traced. Number xxii first appeared off the northwest coast of Spain on the 5th and moved rapidly in an east-northeast course through the centre of the continent; on the 8th it is charted in E. 40°, having traversed fifty degrees of longitude at the average latitude of N. 50° in three days.

Four areas of low pressure viz., numbers xix, xxv, xxviii, and xxxi, are traced in the Mediteranean Sea and over the Italian Peninsula. Two of these (numbers xxv and xxviii) are traced from their appearance on the southwest coast of Spain eastward to the west shore of the Adriatic Sea. One (number xxxi) originated in the Sea of Genoa on the 24th and moved southeast over Sicily, and thence east-southeastward through the centre of the Mediterranean; on the 28th its centre is charted on the shore of Syria, where the pressure, as reported from Beirut, was 29.48 (748.8), having fallen .20 inch during the preceding twenty-four hours. From this point the low area moved southeastward and on the 29th is charted in southern Arabia, where the pressure ranged from 29.53 (750.0) to 29.60 (751.8), moderate gales being reported by vessels in the Red Sea and on the east coast of Arabia, in the Gulf of Omar.

Seven areas of low pressure, viz., numbers xxxiv to xl, inclusive, are traced across the Japanese Islands and in the Pacific Ocean. Of these, number xxxvi is traced from the reports of vessels which had pressure down to 29.35 (745.5) accompanied by gales. Of the depressions traced across Japan, number xxxviii was of the greatest intensity, the barometer falling to 29.13 (739.9) at Nemuro on the 22d, and violent northwest gales prevailing over northern Niphon.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 36 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

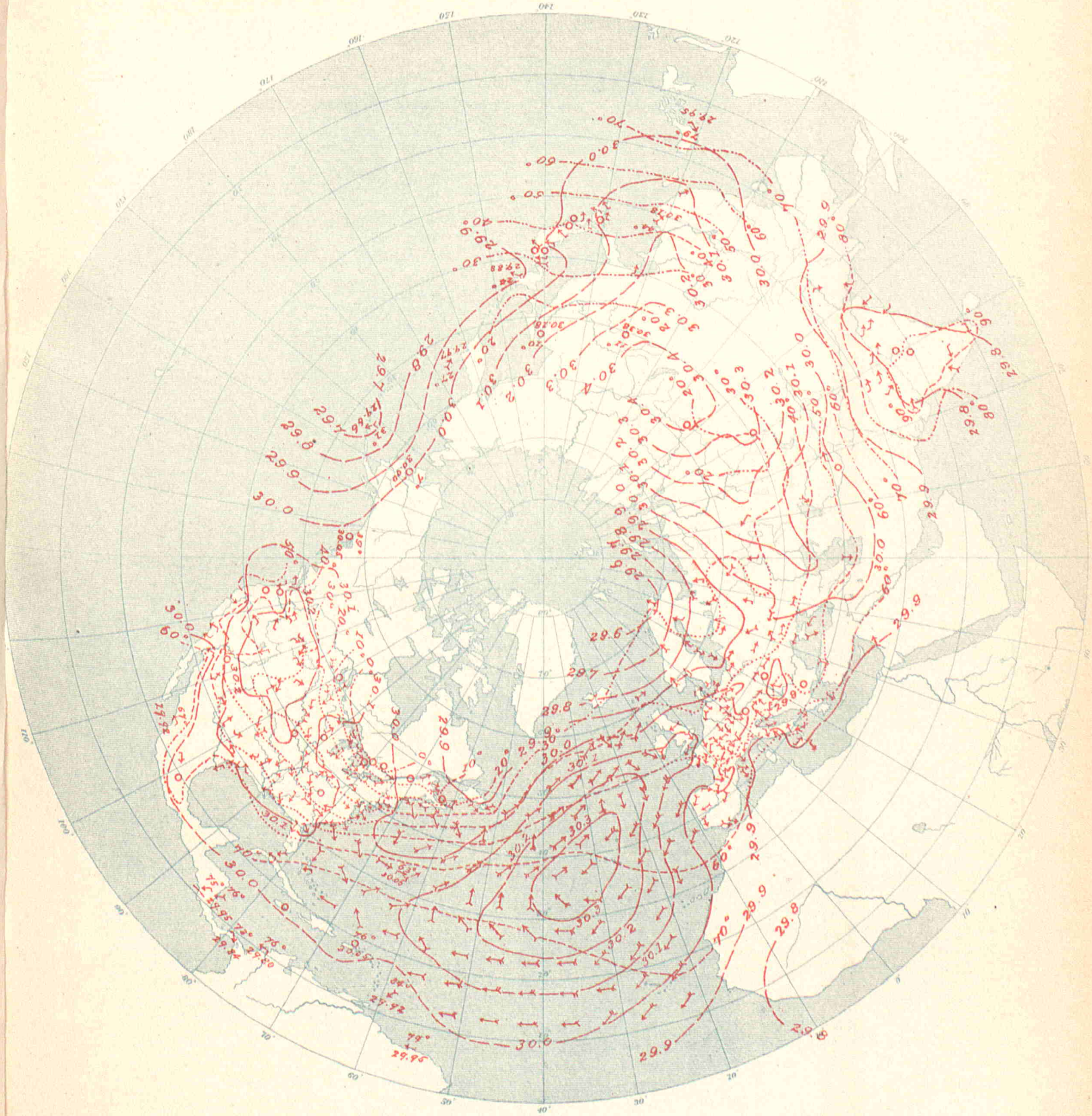
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. March, 1885. Isobars, Isotherms, and Winds.

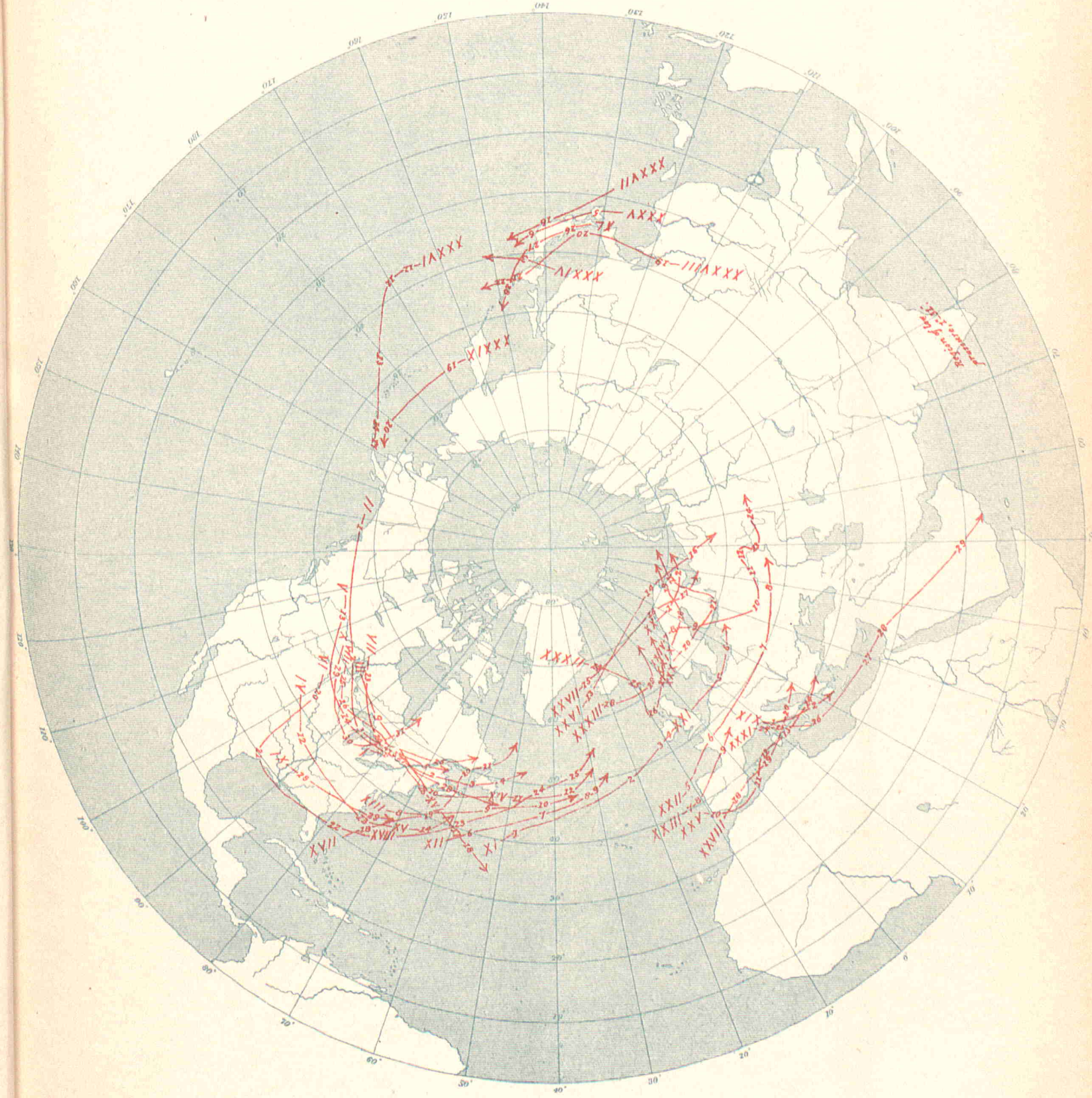


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office 14th.

International Chart III. March, 1885. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March, 1885—Continued.

Name of vessel.	Captain.
SAILING VESSELS—*Continued.*	
It. bk. Celestina	Capt. F. Carniglia
Am. Charles Stewart	Horace Atwood.
Br. Childwall	Thos. O. Watson.
Corisande	Daniel Thoms.
Ger. sp. Cornelius	H. Windhorst.
Columbus	B. Sauermilch.
Derby	B. Fortmann.
bk. Diamant	L. Haesloop.
Br. sp. E. J. Spicer	Lewis Spicer.
Am. schr. Ettie H. Lister	Smith D. Mason.
Br. bk. Exile	Geo. J. Pearce.
Am. schr. Florence Rogers	Jas. S. F. McLeod.
Dan. bk. Galeon	H. H. Kalsboll.
Am. Gamaliel	C. S. Powell.
Br. George Davis	Thos. Macumber.
Am. schr. George W. Lochner	J. C. Wiltbank.
Ger. bk. George Washington	J. Probst, jr.
Am. schr. Governor Hall	John Craig, jr.
Nor. bk. Haabet	K. Olsen.
Am. schr. Henry Waddington	W. H. Megee.
Ger. sp. Ida	W. Schneider.
Am. bk. Idaho	W. S. Richardson.
Br. sp. Iolanthe	Geo. Scott.
Am. schr. Jennie R. Morse	A. D. Colcord.
bg. John Wesley	J. H. Hines.
Br. Kenilworth	P. Doig.
Am. L. & W. Armstrong	A. Alexander.
Ger. bk. Leocadia	John Stopff.
Br. bg. Lilian	H. F. Schive.
Am. sp. Magellan	John W. Strout.
schr. Maggie Abbott	D. C. McIntosh.
bg. Mary Fink	Daniel B. Darrah.
sp. Mary L. Stone	Geo. L. Josselyn.
schr. Mary Nowell	Wm. M. Lank.
Maud Snare	E. W. Snare.
bk. Mohican	Benj. F. Berry.
Br. sp. Morna	J. H. Goodwin.
Am. schr. Moses Webster	G. W. Rhodes.
Nelson Bartlett	Samuel Watts.
Norena	A. B. Chase.
Ger. bk. Orphous	G Myer.
Br. sp. Otto	F. Fortmann.
bk. Paladin	J. A Bettencourt.
Am. Payson Tucker	Chas. Brown.
Nor. Qvos	Gunder Olsen.
Am. sp. Ringleader	J. C. Entwisle
schr. Stephen Bennett	William Douglas.
Br. bk. Strathome	A. W. Flemming.
Am. schr. Thomas Clyde	Alfred J. Biddle
Nor. bk. Tros	Severin Brager.
Ger. sp. Union	H Fokken.
It. bk. Vincenzo Accame	A. V. Lavagna.
Nor. Vikingen	J. C Andersen, jr.
Am. schr. Viola Reppard	Lewis Ogier.
Ger. bk. Western Chief	Fr. Sander.
Br. Winifred	N. P. Dutton.

Name of vessel.	Captain.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	Capt. W. G. Shackford.
Br. Adriatic	H. Parsell
Am. Advance	Jas. R. Beers.
Br. Alene	E. J. Selders.
Belg. Belgenland	W. A. Boynon.
Br. Britannic	H. Perry.
Am. Caracas	W. M. Hopkins.
Br. Carn Marth	W. C. Boynes.
Celtic	Benj. Gleadell.
Am. Chalmette	R. B. Quick.
City of Alexandria	J. W. Reynolds.
Br. City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
City of Montreal	Arthur Redford.
Am. Colon	S. G. Porter.
Ger. Eider	W. Willigerod.
Ems	Ch. Leist.
Br. Gallia	M. Murphy.
Dan. Geiser	F. V. Schierbeck.
Ger. Lessing	B. Voss.
Belg. Nederland	A. J. Griffin.
Dtch. P. Caland	T. H. Bonjer.
Br. Republic	P. J. Irving.
Am. San Marcos	A. B. Connor.
Saratoga	John McIntosh.
Dtch. Schiedam	J. de Harneccourt.
Br. State of Nebraska	A. G. Brace.
Belg. Switzerland	H. Buschmann.
Fr. St. Laurent	M. de Jousselin.
Belg. Waesland	J. Ueberweg.
Br. Wisconsin	Edw. Bentley.
Wyoming	Chas. L. Rigby.
BRITISH NAVAL.	
H. M. S. Alexandra	Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Agamemnon	Long.
H. M. S. Alecto	Lieut. Dean.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Boadicea	Church.
H. M. S. Briton	Lloyd.
H. M. S. Champion	Powlett.
H. M. S. Cleopatra	Hippisley.
H. M. Dockyard, Bermuda	Grant.
H. M. S. Dreadnaught	E. R. Fremantle.
H. M. S. Espeigle	Bridge.
H. M. S. Euryalus	Hastings, C. B.
H. M. S. Flying Fish	MacLear.
H. M. S. Heroine	Blackburne.
H. M. S. Lark	T. F. Pullen.
H. M. S. Minotaur	Britton.
H. M. S. Monarch	Bedford.
H. M. S. Rambler	Hon. F. C. P. Veroker
H. M. S. Satellite	Arlington.
H. M. S Sappho	Castle.

Name of vessel.	Captain.
BRITISH NAVAL—*Continued.*	
H. M. S. Superb	Capt. A. F. Cleveland.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Turquoise	Woodward.
PORTUGUESE NAVAL.	
H. P. M. S. Rainha de Portuga	G. Brito Capello.
H. P. M. S. Rio Lima	A. de Castillo Barreto e Noronha.
H. P. M. S. Tamega	J. d'Almeida d'Avila
SWEDISH NAVAL.	
H. S. M. S. Vanadis	Otto Lagerberg.
DUTCH NAVAL.	
Bromo	
Koning der Nederlanden	
Koningen Emma der Nederlanden	
Leeuwarden	
Prins Hendrick der Nederlanden	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	Lewis Clark.
U. S. S. Enterprise	A. S. Barker.
U. S. S. Galena	T. F. Kane.
U. S. S. Hartford	G. H. Perkins.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lackawanna	A. P. Cooke.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	G. M. Book.
U. S. S. Pinta	H. E. Nichols.
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsley.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	H. G. O. Colby.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Corp'l C. McGregor, A.H.C.
Chatham, School M. E	W. Skipper, R.E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Corp'l C. Stares, A. H. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	Corp'l H. Keene, A. H. C.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Siloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace.
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Rafael Moreno.
Niebla	Federico Köhling.
Punta Corona	Francisco Alvarado.
Quiriquina	Leon Herrera.
Valparaiso	Gumicindo Paez.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overlocrer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overlocrer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labrouse, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Frére Eugene Marié.

Stations.	Observers.
FRENCH—*Continued.*	
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermarec, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Polipré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Théirot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Taillieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Lô, Normal School	M. Delaplanche, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Isermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Agawa.
Hakodate	T. Souma.
Hamamatsu	J. Sokigawa & M. Yamazaki.
Hiroshima	J. Okamoto.
Kagoshima	G. Miyanohara.
Kanazawa	S. Endo.
Kioto	M. Tojima.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Nemuro	A. Shibuya.
Niigata	T. Sato.
Nobiru	H. Yoshino and Nanita.
Numadzu	T. Ohgi
Osaka	H. Omura.
Sakai	H. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Leon	M. Leal & Forres.
Mazatlan	C. Camina.
Mexico	The Staff.
Pabellon	M. V. de Leon, M. E.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Heilevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	D. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljow, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Oviedo	Prof. L. G. Frades.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
Samakov, Bulgaria	Dr. Fred L. Kingsbury.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF APRIL, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
MAY, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Norwegian	J. G. Stephen.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
Columbia	Robt Thos. Garvie.
Devonia	Hugh Young.
Elysia	James Brown.
Ethiopia	J. Wilson.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Samsom.
Alvo	David Williams.
Span. Andes	R. de Echevarrieta
Athos	Horatio Low.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	T. H. Gore.
Llandaff City	T. L. Weiss.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. T. Rogers.
CANADA SHIPPING COMPANY.	
Br. s. s. Lake Nepigon	H. Campbell.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Bothnia	T. Roberts.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Frank.
FURNESS LINE.	
Br. s. s. Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S.S.Co.	
Fr. s. s. St. Laurent	M. de Jousselin.
GUION LINE.	
Br. s. s. Arizona	Samuel Brooks.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Montreal	Arthur Redford.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas. Clarke.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.

Name of vessel.	Captain.
MALLORY LINE.	
Am. s. s. Colorado	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN AND NEW YORK STEAMSHIP COMPANY.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Dliberto.
Indipendente	P. Pirandello.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Brooklyn	G. S. Dale.
Ontario	W. P. Couch.
Oregon	H. C. Williams.
Toronto	Jas. McAuley.
MORGAN'S LA. & TEXAS R. R. S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Egypt	J. Sumner.
Greece	T. Foote.
Holland	Geo. Cochrane.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	R. Ringk.
Elder	H. Helmers.
Elbe	F. Hamelmann.
Ems	C. Leist.
Fulda	O. Heimbruch.
Hermann	H. Baur.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	R. Bussius.
Nurnberg	A. Jaeger.
Salier	C. Wiegand.
Strassburg	H. Heincke.
Werra	J. Barre.
Weser	H. Bruns.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	J. Metcalfe.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Boles.
Geo. W. Elder	H. S. Achley.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Australia	R. C. Ghest.
Am. City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
City of Tokio	Com. Jefferson Maury.
Colima	Capt. W. B. Seabury.
Granada	M. Connolly.
San Blas	T. Chapman.
San Jose	A. D. Austin.
Zealandia	Henry Webber.

Name of vessel.	Captain.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	Capt. G. S. Locke.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. J. Vis.
Zaandam	E. M. Chevatier.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Gaudiana	C. W. Hanslip.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Nebraska	A. G. Brace.
State of Nevada	G. Moodie.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE CROSS LINE.	
Dtch. s. s. De Ruyter	J. J. Brarens.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry
Celtic	Benj Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	Wm. Abbott.
Marengo	J. H. Malet.
Otranto	F. Kerr.
Rosario	Lieut. Rogers, R.N.R.
WINSOR LINE.	
Am. s. s. Norman	H. W. Goggins.
Saxon	S. W. Snow.
MISCELLANEOUS.	
Br. s. s. Amethyst	Robt. Bennington
Camden	S. R. Chadler.
Castleford	C. Gray.
Chiswick	Edw. Leighton.
Edith Godden	John H. Bennett.
Kairos	Thos. Liddle.
Lord Lansdowne	C. H. Baskfill.
Matthew Bedlington	Thos. Kirby.
Menzaleh	J. B. McKie.
Monte Rosa	W. Thos. Irving.
Peconic	John Jenkin.
Picqua	Wm Clayton.
Sikh	A. Scotland.
Strathloven	C. W. Pearson.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	Capt. W. G. Shackford.
Br. Adriatic	H. Parsell
Am. Advance	Jas. R. Beers.
Ailsa	J. W. Samsom.
Alene	E. J. Selders.
Algiers	J. B. Percey.
Span. Alpin	J. B. Percy.
Alvo	D. Williams.
Br. Arizona	Sam'l Brooks.
Aurania	W. H. P. Hains.
Baltic	R. B. Bence.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF APRIL, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
MAY, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

APRIL, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.09	764.3	30.21	767.3	59.8	15.4	61	1	.....	2	1	8	8	5	4	1	6286	10116	2	0.97	24.6
Hobart Town	S. 42 53	E. 147 20	9.49 p.m.	190	58	29.99	761.7	30.18	766.6	52.9	11.6	87	3	4	2	8	4	1	.....	.....	8	.....	.....	6	0.78	19.8
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.12	765.0	30.20	767.1	55.5	13.1	83	6	1	2	7	4	7	1	2	.....	.....	.....	5	2.51	63.8
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.26	743.2	29.80	756.9	62.4	16.9	46	1	.....	1	6	7	5	1	9	.....	.....	.....	6	3.57	90.6
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.06	738.0	29.82	757.5	59.5	15.3	50	2	4	10	1	.....	1	6	6	.....	.....	.....	6	0.35	9.0
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	28.93	734.8	29.78	756.5	52.7	11.5	63	9	.....	.....	.....	12	.....	.....	.....	9	.....	.....	6	0.59	14.9
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.56	725.4	29.79	756.6	59.2	15.1	63	.....	2	5	4	10	3	3	3	.....	.....	.....	5	2.63	66.7
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.39	721.1	29.80	756.8	63.3	17.4	39	4	6	3	.....	6	10	1	.....	.....	.....	.....	6	0.78	19.7
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.39	721.1	29.72	755.0	59.2	15.1	59	.....	1	4	1	.....	3	10	9	2	.....	.....	4	0.52	13.2
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.85	732.8	29.84	758.0	56.7	13.7	53	2	5	4	9	3	2	2	3	.....	.....	.....	6	0.64	16.2
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.69	754.1	29.80	756.9	59.9	15.5	63	.....	.....	7	2	2	7	7	5	.....	.....	.....	6	5.96	151.4
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.31	744.4	29.77	756.1	64.6	18.1	42	7	2	6	2	9	1	2	1	.....	.....	.....	3	0.75	19.0
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	282	86	29.50	749.3	29.78	756.3	65.5	18.6	46	5	1	4	3	13	1	1	1	1	.....	.....	6	0.65	16.6
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.72	754.9	29.82	757.4	59.5	15 3	71	1	8	3	2	.....	1	2	9	4	.....	.....	7	4.94	125.5
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.10	739.0	29.81	757.1	61.2	16.2	48	3	.....	5	.....	1	11	5	3	2	.....	.....	4	1.00	25.5
BRAZILIAN.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.88	759.0	30.06	763.4	77.7	25.4	74	2	15	1	1	.....	1	4	6	.....	.....	.....	4	0.98	25.0
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.71	754.6	29.84	757.9	47.3	8.5	70	4	1	2	2	4	11	3	3	.....	9507	15300	6	1.92	48.8
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.80	756.9	48.8	9.3	65	3	5	6	2	1	4	6	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.24	742.7	29.79	756.7	47.5	8.6	65	3	3	1	4	6	3	4	6	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.38	746.2	29.80	756.9	49.0	9.4	67	3	2	3	4	3	4	3	8	.....	.....	.....	7	1.84	46.7
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.99	761.7	29.95	760.7	82.8	28.2	65	.....	.....	.....	.....	.....	.....	1	29	.....	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.64	752.8	29.83	757.7	52.7	11.5	63	3	1	.....	9	.....	2	8	1	6	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.56	750.8	29.80	756.9	49.0	9.4	69	4	7	1	2	4	5	4	3	.....	.....	.....	6	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	.....	.....	29.85	758.2	75.0	23.9	49	2	4	1	.....	3	5	7	8	.....	.....	.....	4	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.64	752.8	29.80	756.9	82.3	27.9	91	8	1	1	5	9	3	2	1	.....	.....	.....	5	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29 71a	754.6a	29.75a	755 6a	50.6	10.3	71	1	2	2	10	5	4	1	5	.....	.....	.....	6	2.60	66.0
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.95	760.7	29.97	761.2	58.6	14.8	90a	.....	8	14	4	.....	.....	1	3	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	0.00 m.	159	48	29.62	752.3	29.81	757.2	54.4	12.4	61	7	1	1	4	8	.....	2	7	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.51	749.5	29.82	757.4	50.5	10.3	73	8	3	4	2	4	3	4	1	1	.....	.....	6	1.84	46.7
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.76	755.9	29.82	757.4	52.2	11.2	58	5	2	2	4	6	1	2	8	.....	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.52	749.8	29.80	756.9	51.2	10.7	62	3	.....	2	9	2	2	1	11	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.72a	754 9a	29.80a	756.9a	62.9	17.2	82	5	1	6	4	5	4	5	.....	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.02	762.5	30.02	762.5	76.2	24.6	80	1	1	2	2	2	4	8	10	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.56	750.8	29.81	757.2	51.7	10.9	65	6	2	2	3	4	3	1	9	.....	.....	.....	5	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.71	754.6	29.79	756.7	50.3	10.2	74	3	5	2	4	4	2	4	5	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.67a	753.6a	29.80a	756.9a	44.8	7.1	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.80	756 9	29.86	758.4	60.4	15.8	61	5	.....	1	10	4	1	.....	7	2	.....	.....	5	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	29.74	755.4	29.80	756.9	50.1	10.1	76	1	1	5	8	1	5	8	1	.....	.....	.....	5	1.94	49.3
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.81	757.2	48.8	9.3	66	1	3	4	4	2	5	6	1	.....	.....	.....	5	1.74	44.2
Valencia	N. 51 55	W. 10 18	11.19 a.m	23	7	29.73	755.1	29.77	756.1	49.9	9.9	72	4	4	3	3	5	6	3	2	.....	.....	.....	4	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.49	749.0	29.86	758.4	63.8	17.7	63	1	4	7	6	3	3	5	1	.....	5165	8312	5	0.94	23.9
CANADIAN.																										
Bathurst *d*	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.92	760.0	29.96	761.0	33.5	0.8	.....	1	3	2	1	1	3	.....	1	14	.....	.....	6	2.75	69.8
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.89	759.2	29.93	760.2	35.0	1.7	74	6	5	4	1	6	2	2	2	2	5302	8854	5	4.50	115.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.90	759.4	29.96	761.0	31.7	— 0.2	79	.....	7	4	9	1	.....	2	7	.....	3951	6358	6	3.96	100.6
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.80	756.9	30.00	762.0	32.6	0.3	86	2	7	11	1	.....	1	5	3	.....	.....	.....	5	3.92	99.6
Dalhousie *d*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.90	759.4	29.96	761.0	31.4	— 0.3	.....	.....	1	13	.....	.....	.....	5	.....	7	.....	.....	4	1.57	39.9
Father Point *a*	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.93	760.2	29.96	761.0	32.6	0.3	85	3	5	1	8	.....	.....	1	.....	9	.....	.....	7	0.96	24.4
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.13	739.9	30.00	762.0	28.4	— 2.0	85	6	2	.....	3	9	4	.....	6	2	11207	16426	4	1.82	46.2
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.92	760.0	29.99	761.7	34.6	1.4	70	3	9	2	3	3	.....	3	6	1	4783	7697	4	2.70	68.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.91	759.7	29.96	761.0	38.0	3.3	73	5	6	3	4	1	.....	2	4	.....	8267	13304	6	4.67	118.6
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.91	734.3	30.05	763.3	33.7	0.9	96	3	5	2	1	3	5	2	3	6	.....	.....	5	1.93	49.0
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.02	737.1	29.97	761.2	37.7	3.2	72	2	7	7	6	.....	2	4	1	1	.....	.....	5	3.52	89.4
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.58	751.3	29.97	761.2	36.9	2.7	88	.....	2	.....	14	.....	.....	2	12	.....	.....	.....	6	2.16	54.9
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.69	754 1	30.04	763.0	32.4	0.2	83	4	2	5	6	2	.....	5	6	.....	4800	7725	5	5.32	135.1
LittleGlaceBay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.84	757.9	29.88	758.9	36.6	2.6	85	6	1	1	9	3	5	.....	4	1	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.14	740.1	30.07	763.8	34.9	1.6	84	1	5	2	.....	2	3	5	1	11	3894	6267	6	2.25	57.1
Medicine Hat *b*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.67	702.8	30.01	762.2	33.6	0.9	84	1	1	3	3	2	1	1	2	14	7039	11328	3	0.12	3.0
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.08	713.2	29.98	761.5	27.2	— 2.7	92	3	5	1	5	.....	3	1	5	7	.....	.....	4	1.93	49.0
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.80	756.9	30.01	762.2	34.7	1.5	72	3	1	11	6	4	1	.....	4	.....	.....	.....	6	4.04	102.6
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.77	756.1	30.03	762.7	31.0	— 0.6	85	5	7	5	7	.....	.....	2	4	.....	.....	.....	6	8.32	211.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.33	745.0	30.06	763.5	27.1	— 2.7	89	3	1	4	.....	3	3	6	4	6	6430	10348	4	2.50	63.5
Peterborough *a*	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.29	744.0	30.01	762.2	32.1	0.1	92	3	6	.....	.....	.....	.....	1	3	16	.....	.....	5	4.03	102.4
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.33	745.0	30.03	762.7	27.9	— 2.3	84	3	1	3	1	.....	.....	.....	4	15	3641	5860	6	2.54	64.0
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.34	745.2	30.06	763.5	34.9	1.6	90	2	4	6	4	.....	.....	2	5	7	5065	8151	5	2.76	70.1
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.36	745.7	30.04	763.0	35.6	2.0	80	2	1	10	1	.....	12	2	1	.....	.....	.....	6	2.51	63.8
Qu'Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.63	701.8	29.96	761.0	30.5	— 0.8	.....	1	3	2	6	7	1	1	2	7	.....	.....	5	1.60	40.6
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.62	752.3	29.98	761.5	32.0	0.0	94	1	: 8	6	1	2	2	3	6	.....	.....	.....	6	2.58	65.5
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.57e	751.1e	30.05e	763.3e	26.6	— 3.0	83	....	8	4	1	.....	1	5	.....	11	.....	.....	4	1.39	35.3
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.88	758.9	29.92	760.0	35.9	2.1	78	5	10	.....	2	5	4	1	2	.....	.....	.....	5	2.39	60.7
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.81	757.2	29.96	761.0	36.0	2.2	84	4	5	3	2	3	3	3	4	3	.....	.....	6	3.44	87.4
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.88	758.9	36.9	2.7	.....	3	5	6	6	1	5	.....	3	1	.....	.....	6	3.46	87.9
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.31	744.5	30.05	763.3	31.5	— 0.3	83	3	4	1	2	5	2	1	4	8	7021	11300	6	2.06	52.3
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.74	730.0	30.07	763.8	34.0	1.1	84	4	2	1	5	2	2	6	4	4	.....	.....	6	2.50	63.5
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.87	758.7	29.93	760.2	34.2	1.2	77	6	4	5	3	4	3	2	2	1	7484	12043	6	5.21	132.3
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.67	753.6	30.07	763.8	34.4	1.3	82	4	8	3	1	.....	1	6	4	3	7753	12477	6	2.68	68.1
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.97	735.8	30.07	763.8	36.2	2.3	78	3	3	6	2	3	2	4	6	1	.....	.....	5	1.56	39.6
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.89	759.2	29.98	761.5	38.2	3.4	82	5	6	1	4	3	2	4	7	.....	2	.....	6	2.46	62.5
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.57	751.1	29.75	755.6	35.0	1.7	92	3	1	2	10	3	5	.....	6	.....	.....	.....	4	4.34	110.2
CAPE COLONY																										
Cape St. Francis *a*	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.00	762.0	30.00	762.0	66.2	19.0	94	1	.....	13	7	.....	.....	5	1	3	.....	.....	3	2.04	51.8
Cape Town	N. 34 02	E. 18 29	1.14 p.m.	?	?	29.94	760.5	.....	.....	67.7	19.8	63	.....	2	11	1	.....	4	.....	12	.....	.....	.....	3	2.43	61.7
Springbok *a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	27.89	708.4	.....	.....	68.3	20.2	54	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.84	46.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Chinese.	° ′	° ′																								
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.83	757.7	29.88	758.9	69.7	20.9	93	1	.....	.....	.....	2	2	17	8	.....	.....	.....	7	14.89	378.2
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.04	763.0	30.02	762.6	51.1	10.6	86	4	3	1	.....	2	7	6	6	1	.....	.....	7	5.16	131.1
Danish.																										
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.82	757.3	29.89	759.3	48.7	9.3	69	7	1	4	3	1	2	6	5	1	.....	.....	7	.....	.....
Fanöe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.82	757.4	29.87	758.8	48.7	9.3	71	.....	5	2	6	2	3	7	5	.....	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.67	753.6	29.76	756.0	32.2	0.1	87	2	.....	.....	.....	.....	6	10	11	1	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.67	753.6	29.73	755.2	45.3	7.4	76	3	2	2	3	5	7	4	4	.....	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.77	750.1	29.89	759.3	46.8	8.2	72	2	4	2	4	5	.....	5	8	.....	.....	.....	5	.....	.....
French.																										
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.19	741.4	29.84	757.9	55.9	13.3	69	1	10	2	4	4	9	.....	.....	.....	.....	.....	7	3.73	94.8
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.28	743 6	29.83	757 7	54.9	12.7	68	2	3	1	4	10	.....	.....	10	.....	.....	.....	.....	0.87	22.1
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.57	751.1	29.82	757.5	56.3	13.5	62	2	5	7	3	1	6	.....	4	2	.....	.....	5	1.20	30.4
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.76	756.0	29.84	758.0	60.6	15.9	58	6	6	2	3	6	1	3	3	.....	.....	.....	5	5.55	140.9
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.23	742 5	29.79	756.6	57.4	14.1	66	.....	2	.....	3	7	5	5	8	.....	.....	.....	5	2.34	59.3
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	.....	.....	.....	.....	56.3	13.5	69	6	1	.....	3	4	.....	5	11	.....	.....	.....	4	1.41	35.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	28.85	732.8	29.80	756.9	57.9	14.4	54	9	.....	4	1	8	1	4	3	.....	.....	.....	5	3.22	81.8
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.53	750.5	29.81	757.1	55.9	13.3	63	4	7	3	7	.....	7	.....	2	.....	.....	.....	6	3.50	88.9
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.25	743.0	29.80	756.9	58.1	14.5	59	3	4	2	8	5	3	3	2	.....	.....	.....	4	2.36	60.0
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.59	751.6	29.83	757.7	53.6	12.0	71	6	2	3	9	2	1	2	4	1	.....	.....	6	4.46	113.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.66	753.3	29.74	755.5	55.4	13.0	69	6	5	4	6	4	.....	.....	5	.....	.....	.....	.....	0.96	24.4
Châlons sur Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.47	748.5	29.79	756.6	58.3	14.6	64	1	.....	3	4	13	3	3	2	1	.....	.....	4	1.69	43.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.26	743.2	29.79	756 7	50.9	10.5	54	1	1	1	6	7	5	2	7	.....	.....	.....	5	1.18	30.1
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.42	721.9	29.76	755.9	55.9	13.3	54	7	5	3	1	3	2	1	8	.....	.....	.....	7	3.20	81.3
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	28.93	734.7	29.78	756.5	57.4	14.1	60	.....	4	3	5	2	4	3	9	.....	.....	.....	5	3.49	88.7
Commercy .m	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.01	736.8	29.87	758.7	60.6	15.9	51	2	1	1	3	4	1	2	3	.....	.....	.....	.....	1.07	27.2
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.26	692.4	29.78	756.5	56.8	13.8	47	4	.....	1	3	3	6	1	6	6	.....	.....	5	3.09	78.5
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.65	727.8	29.77	756.1	57.7	14.3	60	1	8	.....	6	4	6	3	2	.....	.....	.....	6	4.50	114.2
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.07	738.4	29.84	757.9	57.6	14.2	72	2	16	3	2	1	2	1	.....	3	.....	.....	.....	2.48	63.1
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.22	716.9	29.82	757.4	53.1	11.7	73	.....	3	7	6	4	4	2	1	3	.....	.....	5	2.67	67.9
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.56	750.9	29.85	758.2	52.9	11.6	69	6	8	1	2	6	1	1	5	.....	.....	.....	4	2.39	60.6
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.27	743.4	29.82	757.4	55.4	13.0	64	.....	1	14	9	.....	2	3	1	.....	.....	.....	7	8.98	228.0
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.71	754.7	29.82	757.3	54.7	12.6	63	7	.....	1	6	9	3	2	2	.....	.....	.....	6	4.27	108.4
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.73	729.7	29.78	756.3	56.3	13.5	58	3	9	3	.....	3	4	5	3	.....	.....	.....	.....	2.10	53.3
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.47	748.6	29.82	757.3	55.9	13.3	66	4	2	8	2	4	.....	4	6	.....	.....	.....	.....	0.95	24.1
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.50	749.4	29.77	756.1	59.4	15.2	58	.....	6	4	7	5	4	4	.....	.....	.....	.....	.....	4.81	122.2
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.60	624.9	29.45	747.9	41.4	5.2	64	6	3	2	10	.....	.....	2	5	2	.....	.....	6	4.50	114.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.65	753.2	29.76	755.9	61.9	16.6	66	5	6	2	1	1	7	1	7	.....	.....	.....	4	3.49	88.7
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.60	599.4	.....	.....	.....	.....	.....	2	7	.....	4	5	10	.....	2	.....	.....	.....	5	13.28	337.4
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.02	737.1	29.81	757.1	56.8	13.8	61	3	6	6	6	1	1	5	2	.....	.....	.....	.....	1.38	35.0
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.67	753.6	29.83	757.7	57.4	14.1	54	5	4	5	8	2	1	1	4	.....	.....	.....	8	1.89	47.9
Nice.b	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.47	748.5	.....	.....	63.3	17.4	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4.88	123.9
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.68	753.9	29.80	756.8	57.7	14.3	58	3	10	.....	4	2	5	4	2	.....	.....	.....	7	3.12	79.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	20.92	531.3	.....	.....	25.2	— 3.8	.....	1	3	8	5	1	.....	.....	1	11	.....	.....	.....	14.06	357.0
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.83	732.2	29.84	757.8	57.6	14.2	58	7	2	2	.....	16	.....	.....	3	.....	.....	.....	6	4.82	122.4
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	24.90	632.4	.....	.....	35.4	1.9	88	2	5	3	4	3	4	5	4	.....	.....	.....	7	3.93	99.8
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.78	756.5	29.82	757.3	58.3	14.6	64	5	4	8	3	2	3	2	3	.....	.....	.....	6	8.15	207.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.53	750.0	29.81	757.2	57.9	14.4	56	3	4	5	6	1	5	1	5	.....	.....	.....	.....	2.08	52.8
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.65	702.4	29.78	756.5	52.5	11.4	72	7	8	.....	1	1	2	11	.....	.....	.....	.....	.....	4.20	106.8
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.75	755.6	29.81	757.1	57.0	13.9	64	1	5	4	4	4	2	4	6	.....	.....	.....	5	1.82	46.3
Saint Lô	N. 49 06	W. 1 05	11.56 a.m.	135	41	29.66	753.3	29.83	757.6	53.2	11.8	72	1	3	7	5	3	1	3	7	.....	.....	.....	5	1.99	50.5
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.64	752.8	29.81	757.1	57.4	14.1	52	10	1	2	9	7	.....	.....	1	.....	.....	.....	5	1.39	35.3
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.14	740 2	29.86	758.4	55.6	13.1	72	.....	9	7	3	.....	6	3	2	.....	.....	.....	8	4.13	104.8
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.61	752.2	29.80	756.9	58.5	14.7	56	5	4	2	5	3	4	3	4	.....	.....	.....	5	1.08	27.5
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.34	745.1	29.79	756.6	56.5	13.6	54	3	3	5	2	5	.....	.....	6	.....	.....	.....	4	1.81	30.0
Sub-Series.																										
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.71	754.6	29.86	758.4	54.5	12.5	69	6	4	14	2	2	.....	2	.....	.....	.....	.....	8	7.15	181.6
German.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.34	719 9	29.78	756.4	58.6	14.8	40	.....	2	6	4	1	4	2	8	3	.....	.....	3	0.24	6.2
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	28.93	734.7	29.78	756.3	61.5	16.4	55	1	5	5	1	4	1	4	5	4	.....	.....	5	0.22	5.7
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.67	753 7	29.86	758 4	58.5	14.7	52	3	4	4	1	2	5	9	2	.....	.....	.....	5	2.58	65.4
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.32	744.8	29.86	758.5	57.2	14.0	47	1	4	7	.....	1	7	5	5	.....	.....	.....	6	1.32	33.5
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.33	745.0	29.79	756.7	59.5	15.3	47	2	1	2	11	.....	1	7	6	.....	.....	.....	6	2.99	76.0
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.06	738.0	29.79	756.6	59.0	15.0	49	6	1	2	5	8	2	5	1	.....	.....	.....	6	0.79	20.3
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.41	747.1	29.84	757.9	60.3	15.7	47	5	2	3	5	3	3	3	6	...	.....	.....	5	0.83	21.0
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.35	720.1	29.76	755.9	50.2	10.1	61	.....	.....	3	17	3	.....	.....	1	.....	.....	.....	5	1.34	33.9
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.75	755.6	29.86	758.4	53.1	11.7	60	3	1	3	7	2	2	6	6	...	...	...	7	2.82	71.5
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.82	757.4	29.85	758.3	49.3	9.6	69	3	.....	5	4	.....	1	8	9	.....	.....	.....	6	2.15	54.7
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.37	746.1	29.81	757.2	58.5	14.7	54	.....	4	1	6	2	3	3	11	.....	.....	.....	6	1.14	29.0
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.61	752.1	29.81	757.2	58.6	14.8	52	1	3	7	2	1	5	5	6	.....	.....	.....	6	1.98	50.3
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.87	758.7	29.95	760.7	47.1	8.4	70	1	10	4	3	1	2	5	4	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	27.94	709.7	29.80	756.8	57.9	14.4	43	2	6	.....	.....	.....	1	7	6	8	.....	.....	5	1.39	35.3
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.85	758.2	29.91	759.7	49.3	9.6	64	8	.....	4	.....	1	4	6	7	.....	.....	.....	5	0.52	13.2
Neustadt, a	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.23	742.5	29.76	756.0	58.5	14.7	54	2	6	11	3	4	.....	.....	.....	3	.....	.....	6	1.95	49.5
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	28.88	733.6	29.77	756.2	59.7	15.4	49	2	8	3	.....	.....	2	2	12	1	.....	.....	6	1.07	27.1
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.83	757.7	29.87	758.8	49.1	9.5	74	3	5	3	3	1	1	4	10	.....	.....	.....	6	1.35	34.2
Greek.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	361	110	29.50	749.2	29.85	758.3	68.7	20.4	62	1	.....	2	3	15	5	.....	4	.....	.....	.....	4	0.61	15.4
Indian.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.75	755.6	29.75	755.6	80.5	26.9	59	.....	3	12	14	1	.....	.....	.....	.....	.....	.....	3	0.63	16.0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.31	744.5	29.72	754.9	94.7	34.8	17	.....	2	12	16	.....	.....	.....	.....	.....	.....	.....	2	0.03	0.8
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.78	756.4	29.72	754.9	82.3	27.9	68	1	26	3	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.93	709.4	29.66	753 4	93.0	33.9	23	.....	15	10	1	.....	2	1	1	.....	.....	.....	4	0.29	7.4
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.26	692.4	29.67	753.6	83.9	28.8	51	1	1	25	2	.....	1	.....	.....	.....	.....	.....	3	1.32	33.5
Lahore	N. 31 34	E. 74 20	4.57 p.m.	732	223	29.04	737.6	29.71	754.6	86.9	30.5	29	1	8	3	4	3	2	1	1	7	.....	.....	5	1.06	26.9
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.83	732.3	29.66	753.4	89.4	31.9	24	.....	.....	22	.....	.....	.....	.....	1	7	.....	.....	3	0.41	10.4
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.19	741.4	29.68	753.9	94.7	34.8	22	.....	2	22	5	.....	.....	1	.....	.....	.....	.....	3	0.49	12.4
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.70	729 0	29.64	752.8	96.0	35.6	24	1	2	3	5	1	1	3	2	12	.....	.....	5	1.47	37.3
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.39	721.1	29.64	752.8	95.1	35.1	18	2	8	10	.....	3	2	.....	1	4	.....	.....	4	0.08	2.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.36	745.7	29.68	753.9	93.6	34.2	22	8	6	4	3	1	1	.....	5	2	.....	.....	3	0.30	7.6
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.40	746.7	29.65	753.1	95.7	35.4	21	.....	16	12	1	.....	.....	.....	.....	1	.....	.....	2	0.45	11.4
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.47	748.5	29.60	751.8	96.6	35.9	21	.....	11	16	1	.....	.....	.....	1	1	.....	.....	2	0.02	0.5
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.73	704.3	29.61	752.1	91.7	33.2	17	5	16	6	3	.....	.....	.....	.....	.....	.....	.....	3	0.15	3.8
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29 05	753.1	29.67	753.6	91.6	33.1	48	.....	1	4	6	16	2	.....	1	.....	.....	.....	3	1.14	29.0
Calcutta	N. 22 33	E. 88 21	5.53 p.m	21	6	29.67	753.6	29.63	752.6	91.0	32.8	45	1	1	1	11	14	1	1	.....	.....	.....	.....	2	0.66	16.8
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.56	750.8	29.63	752.6	82.2	27.9	63	2	3	2	1	1	2	8	3	8	.....	.....	2	4.46	113.3
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.68	753.9	29.72	754.9	80.9	27.2	78	.....	.....	1	9	12	3	2	.....	3	.....	.....	5	8.23	209.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.42	747.3	29.72	754.9	74.3	23.5	81	.....	.....	.....	6	.....	2	.....	22	.....	.....	.....	6	14.01	355.7
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.34	719.8	29.70	754.4	91.0	32.8	23	1	12	12	3	.....	2	.....	.....	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.27	718.0	29.60	751.8	98.6	37.0	26	.....	2	4	3	4	1	16	.....	.....	.....	.....	4	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.58	751.3	29.78	756.4	96.1	35.6	37	.....	.....	1	.....	1	9	8	3	8	.....	.....	3	0	0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN.	° ′	° ′																								
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.37	746.0	29.78	756.4	61.0	16.1	56	8	5	5	3	1	5	1	.....	2	.....	.....	6	4.72	120.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.28	743.7	29.80	756.9	59.9	15.5	55	2	3	3	8	2	5	1	6	.....	.....	.....	7	6.31	160.3
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.69	754.2	29.80	756.9	59.7	15.4	61	1	.....	.....	3	3	8	9	6	.....	.....	.....	7	5.30	134.7
Moncalieri	N. 45 00	E. 7 41	0.31 p.m.	846	258	28.87	733.4	29.78	756.6	55.9	13.3	68	4	7	4	3	1	1	9	1	...	.....	.....	8	9.03	229.4
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.59	751.6	29.78	756.5	59.2	15.1	61	7	.....	1	7	6	6	.....	3	.....	.....	.....	6	4.62	117.3
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.75	755.6	29.80	756.8	57.2	14.0	74	.....	11	2	5	.....	8	1	3	.....	.....	.....	6	4.54	115.4
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.51	749.6	29.77	756.1	61.2	16.2	54	2	2	5	3	2	.....	5	11	.....	.....	.....	7	2.43	61.7
Leghorn	N. 43 33	E. 10 18	0.49 p.m.	79	24	29.71	754.7	29.80	756.8	59.9	15.5	63	.....	2	12	1	5	.....	2	8	.....	.....	.....	7	4.34	110.2
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.60	751.7	29.76	756.0	62.6	17.0	57	8	.....	5	6	7	1	.....	2	.....	.....	.....	7	7.00	192.9
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.57	751.1	29.81	757.2	64.2	17.9	54	3	2	5	8	3	4	5	.....	.....	.....	.....	5	3.44	87.4
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	28.92	734.5	29.80	756.8	60.1	15.6	67	2	4	9	3	3	7	2	.....	.....	.....	.....	7	4.32	109.8
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.55	751.3	29.82	757.4	63.0	17.2	54	.....	2	4	7	.....	1	1	15	.....	.....	.....	7	3.01	76.5
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.80	756.9	29.82	757.5	62.8	17.1	64	5	.....	6	2	5	3	6	3	.....	.....	.....	6	1.42	36.0
Sub-Series.																										
Naples, c	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.28	743.7	.....	.....	58.8	14.9	71	3	.....	1	14	3	.....	1	5	.....	.....	.....	7	5.57	141.4
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	21.95	557.5	.....	.....	32.5	0.3	73	.....	.....	5	12	1	1	2	9	.....	.....	.....	6	5.97	151.6
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	21.95	557.4	.....	.....	33.1	0.6	75	1	5	1	6	1	5	8	3	.....	.....	.....	8	13.97	355.2
JAPANESE.																										
Akita	N. 39 42	E. 140 07	9.20 p.m.	33	10	30.03	762.8	30.05	763.3	44.1	6.7	84	3	3	2	1	.....	4	3	.....	14	.....	.....	7	7.86	199.6
Awomori	N. 40 51	E. 140 45	9.23 p.m.	33	10	30.01	762.3	30.04	762.9	39.6	4.2	80	2	1	7	3	5	5	3	.....	4	3329f	5358f	5	2.96	75.3
Hakodate	N. 41 46	E. 140 44	9.23 p.m.	10	3	30.03	762.8	30.03	762.8	39.7	4.3	79	6	2	11	1	1	1	8	.....	.....	8714	14025	4	1.94	49.2
Hiroshima	N. 34 23	E. 132 27	8.50 p.m.	13	4	30.03	762.7	30.01	762.3	53.6	12.0	88	13	.....	1	.....	5	.....	3	2	6	3552	5717	7	14.27	362.5
Kago-hima	N. 31 35	E. 130 33	8.42 p.m.	13	4	30.04	763.0	30.02	762.4	61.3	16.3	84	3	7	4	.....	7	.....	3	3	3	.....	.....	7	6.56	166.6
Kioto	N. 35 01	E. 135 46	9.03 p.m.	161	49	29.89	759.2	30.04	762 9	53.2	11.8	82	5	4	.....	1	.....	1	3	6	10	19560d	31480d	8	12.06	306.3
Kochi	N. 33 33	E. 133 34	8.54 p.m.	20	6	30.02	762.6	30.01	762.3	60.4	15.8	82	5	5	8	1	2	1	4	4	.....	5005	8036	8	14.02	356.0
Miasaka	N. 31 56	E. 131 26	8.46 p.m.	26	8	30.03	762.7	30.02	762 5	60.6	15.9	89	7	1	9	1	3	.....	7	2	.....	.....	.....	7	8.67	220.2
Miyako	N. 39 38	E. 141 59	9.28 p.m.	98	30	29.96	760.9	30.05	763.3	43.2	6.2	83	3	.....	10	8	2	.....	1	.....	6	2980	4796	6	3.18	80.9
Nagasaki	N. 32 44	E. 129 52	8.39 p.m.	190	58	29.83	757.7	30.00	762.1	56.7	13.7	86	11	1	1	7	1	3	2	3	1	4776	7683	7	16.85	427.9
Nemuro	N. 43 20	E. 145 35	9.42 p.m.	43	13	29.97	761.1	30.01	762.3	33.4	0.8	87	5	1	2	2	9	4	2	5	5	5167	8316	5	2.97	75.4
Niigata	N. 37 55	E. 139 03	9.16 p.m.	33	10	30.04	762.9	30.05	763.3	48.0	8.9	83	2	3	.....	2	7	1	8	1	2	5225	8408	7	7.59	192.8
Nobiru	N. 38 23	E. 141 11	9 25 p.m.	16	5	30.06	763.4	30.05	763.8	43.9	6.6	84	13	2	.....	7	10	1	2	.....	.....	8433	13571	6	4.33	110.0
Numadzu	N. 35 06	E. 138 51	9.15 p.m.	33	10	30.04	763.0	30.04	763.1	53.6	12.0	84	2	.....	4	3	.....	6	13	1	1	.....	.....	9	14.53	369.0
Osaka	N. 34 41	E. 135 30	9.02 p.m.	46	14	30.00	762.0	30.02	762.5	54.3	12.4	83	5	1	3	2	1	1	5	12	.....	6589	13604	8	9.03	229.4
Sakai	N. 35 33	E. 133 14	8.53 p.m.	7	2	30.04	763.1	30.03	762.7	51.4	10.8	86	6	3	5	.....	1	.....	4	9	2	.....	.....	8	9.96	253.0
Shimonoseki	N. 33 58	E. 130 56	8.44 p.m.	135	41	29.89	759.2	30.01	762.2	52.9	11.6	84	.....	.....	5	.....	.....	3	5	17	.....	.....	.....	8	12.16	308.5
Tokei	N. 35 41	E. 139 46	9.19 p.m.	69	21	30.02	762.5	30.07	763.7	50.9	10.5	86	5	3	1	.....	6	3	9	3	.....	6579	10588	8	5.97	151.7
Wakayama	N. 34 14	E. 135 09	9.01 p.m.	49	15	29.98	761.6	30.00	762.1	56.7	13.7	80	6	1	.....	.....	5	1	1	15	2732	4396	8	8.98	228.2
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.75	755.6	29.88	758.9	79.7	26.5	69	.....	4	2	1	1	6	14	2	.....	.....	.....	6	1.41	35.8
MEXICAN.																										
Guanajuato, a	N. 21 01	W. 101 10	5.15 a m.	6762	2061	23.67	601.2	29.81	757.2	59.2	15.1	73	.....	5	.....	3	1	9	8	3	.....	.....	.....	2	1.55	39.4
Leon	N. 21 07	W. 101 36	5.14 a.m.	5902	1799	24.32	617.7	29.93	760.3	57.2	14.0	72	2	23	1	.....	.....	.....	.....	2	2	.....	.....	6	1.69	43.0
Mazatlan	N. 23 12	W. 106 17	4.55 a.m.	249	76	29.66	753.4	29.86	758.5	70.9	21.6	85	2	5	3	2	.....	7	6	5	.....	.....	.....	3	0	0
Mexico, a	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.07	586.0	30.10	764.5	51.8	11.0	74	.....	2	1	1	1	.....	.....	1	23	.....	.....	2	1.03	26.2
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.43	595 1	30.03	762.8	60.4	15.8	57	3	10	1	.....	.....	.....	.....	2	14	.....	.....	2	4.79	121.7
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.81	757.1	29.83	757.6	54.1	12.3	.....	2	5	3	2	7	1	2	6	2	.....	.....	.....	1.36	34.6
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.76	755.8	29.83	757 7	52.2	11.2	.....	.....	2	2	6	1	4	6	8	1	.....	.....	.....	0.99	25.2
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.81	757.1	29.83	757.6	50.0	10.0	.....	2	1	1	8	2	.....	6	10	.....	.....	.....	.....	0.42	10.8
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.80	756.9	29.82	757.4	55.9	13.3	.....	3	2	6	3	4	.....	7	3	2	.....	.....	.....	0.96	24.5
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.76	756.0	29.83	757.7	57.0	13.9	.....	5	2	2	7	2	3	2	7	.....	.....	.....	5	0.83	21.1
Sub-Series.																										
Batavia	S. 6 11	E. 106 50	7.07 p.m.	26	8	.....	.....	29.82	757.4	79.9	26.6	86	2	.....	1	1	.....	6	4	16	.....	.....	.....	6	3.02	76.6
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.80	757.0	29.91	759.6	47.1	8.4	58	2	4	4	4	6	5	1	4	.....	.....	.....	4	1.83	46.5
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.82	757.3	29.91	759.6	43.0	6.1	66	6	.....	.....	2	5	2	9	3	3	.....	.....	6	2.74	69.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.73	755.2	29.92	760.0	47.7	8.7	50	.....	3	2	9	3	1	3	8	1	.....	.....	5	1.04	26.5
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.89	759.3	29.98	761.4	34.7	1.5	.....	1	1	3	2	4	3	5	5	6	.....	.....	6	1.16	29.5
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.11	764.7	30.16	766.1	63.1	17.3	66	.....	.....	.....	20	1	7	.....	2	.....	.....	.....	7	1.10	27.8
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.64	752.9	29.97	761.1	56.8	13.8	64	6	9	3	7	3	.....	.....	2	.....	.....	.....	6	3.91	99.4
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.20	767.1	30.25	768.4	64.6	18.1	69	7	3	8	9	.....	2	.....	1	.....	.....	.....	4	1.89	48.0
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	33	10	30.04	762.9	30.00	762.1	70.2	21.2	64	1	...	.....	.....	.....	.....	7	22	.....	.....	.....	4	0.01	0.3
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.04	712.1	29.77	756.2	83.5	28.6	66	.....	5	4	6	6	.....	.....	2	7	.....	.....	7	11.66	296.1
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.10	637.6	29.92	760.0	35.6	2.0	89	2	10	10	1	.....	2	4	1	.....	.....	.....	8	13.82	351.1
RUSSIAN																										
Akmolinski, c	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.87	733.4	30.00	762.0	39.7	4.3	66	2	1	3	3	4	5	3	5	1	.....	.....	4	0.33	8.3
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.90	759.5	29.97	761.3	36.0	2.2	70	2	4	3	3	2	8	4	2	2	.....	.....	7	0.39	9.9
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.02	762.6	29.95	760.8	55.8	13.2	45	5	3	3	2	2	6	5	2	2	.....	.....	6	0.39	10.0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.01	762.2	29.95	760.7	53.8	12.1	74	10	.....	.....	.....	9	1	.....	1	4	.....	.....	4	0.49	12.5
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.60	751.7	30.13	765.3	39.0	3.9	63	2	3	2	8	.....	.....	.....	8	7	.....	.....	4	0.56	14.3
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.67	753.5	29.95	760.6	43.3	6.3	67	2	3	5	2	4	6	4	4	...	.....	.....	6	2.04	51.7
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.01	736.9	30.03	762.8	37.9	3.3	54	2	1	4	5	2	10	3	.....	3	.....	.....	9	0.17	4.3
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.48	748.7	29.93	760.3	58.6	14.8	38	1	4	2	5	6	4	3	4	1	.....	.....	6	0.54	13.7
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.63	752.5	29.80	757.0	60.1	15.6	42	2	5	4	2	2	3	8	4	.....	.....	.....	7	0.46	11.7
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.65	753.0	29.95	760.8	38.7	3.7	64	3	3	5	6	5	3	3	2	.....	.....	.....	7	0.56	14.1
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.88	759.0	29.98	761.6	34.9	1.6	68	2	4	1	2	2	2	7	6	4	.....	.....	8	0.69	17.5
Kertch, a	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.94	760.4	29.96	761.0	54.9	12.7	62	3	2	.....	1	3	4	1	5	10	.....	.....	6	0.24	6.1
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.24	742.6	29.88	759.0	54.9	12.7	54	5	4	5	1	6	5	2	2	.....	.....	.....	7	1.25	31.7
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.37	746.1	29.90	759.5	44.6	7.0	70	4	2	3	6	3	2	5	4	1	.....	.....	6	2.09	53.1
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.35	745.6	29.96	761.0	51.3	10.7	57	3	3	5	4	3	2	3	.....	7	.....	.....	8	1.28	32.6
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.88	758.9	29.93	760.3	45.1	7.3	67	2	4	5	6	2	1	0	4	.....	.....	.....	5	0.20	5.2
Lugan	N. 48 35	E. 39 20	2.37 p.m.	1877	57?	29.70	754.4	29.92	759.9	57.6	14.2	38	3	4	6	6	5	3	2	1	.....	.....	.....	7	1.78	45.3
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.42	747.3	29.94	760.5	41.7	5.4	58	3	3	3	5	3	1	6	1	5	.....	.....	5	0.90	22.8
Nerchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.65	702.3	30.06	763.4	27.0	— 2.8	56	.....	7	5	2	1	.....	.....	.....	15	.....	.....	4	1.08	27.3
Nikolajev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.86	758.4	29.93	760.2	58.6	14.8	56	3	.....	1	6	5	2	6	3	4	.....	.....	2	0.27	6.9
Nikolaievsk, c	N. 53 08	E. 140 45	9.23 p.m.	59	18	29.78	756.4	29.89	759.1	19.9	— 6.7	76	.....	2	4	.....	.....	.....	8	3	8	.....	.....	5	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.52	749.9	30.02	762.4	39.6	4.2	53	5	5	.....	4	4	5	4	3	4	.....	.....	8	1.00	25.4
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.55	750.6	29.88	759.0	65.3	18.5	40	2	5	5	5	1	3	1	5	3	.....	.....	8	0.46	11.7
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.69	745.1	29.93	760.2	36.0	2.2	61	2	3	1	3	1	14	2	2	2	.....	.....	6	2.11	53.7
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.38	746.3	29.89	759.3	56.1	13.4	48	1	8	5	2	3	8	5	2	1	.....	.....	5	0.75	19.1
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.90	759.5	29.93	760.1	59.0	15.0	84	.....	8	2	14	1	.....	2	.....	3	.....	.....	3	1.54	39.0
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.90	759.4	29.96	761.0	39.7	4.3	52	2	4	5	1	5	4	3	6	.....	.....	.....	5	0.82	20.8
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.45	697.1	29.86	758.5	59.5	15.3	70	.....	.....	.....	3	.....	.....	3	1	.....	23	.....	7	4.03	102.3
Semipalatinsk, a	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.43	747.5	30.12	765.1	40.1	4.5	63	6	2	2	.....	.....	.....	.....	.....	19	.....	.....	3	0	0
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.70	754.3	29.91	759.6	58.3	14.6	52	4	10	4	7	4	1	.....	.....	.....	.....	.....	5	0.87	22.1
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.31	744.5	29.89	759.1	51.6	10.9	54	.....	3	5	1	.....	11	9	1	.....	.....	.....	7	1.89	48.0
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.22	716.7	29.83	757.7	65.1	18.4	58	5	7	7	5	1	.....	.....	2	3	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.50	724.0	29.89	759.3	60.1	15.6	43	3	8	.....	1	5	12	1	.....	.....	.....	.....	6	1.98	50.3
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.42	747.3	29.86	758.4	56.3	13.5	46	3	5	2	5	2	3	4	2	4	.....	.....	6	0.35	9.0
Yeniseisk	N. 58 27	E. 92 06	6 08 p.m.	262?	80?	29.80	757.0	30.13	765.4	37.6	3.1	49	5	3	2	3	3	2	2	1	9	.....	.....	8	0.58	14.7
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.29	741.0	29.85	758.2	41.0	5.0	61	3	4	5	2	5	2	3	3	3	.....	.....	4	0.53	13.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1885.																			Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
SPANISH.	° ′	° ′																									
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.64	752.8	29.80	757.0	58.8	14.9	75	.....	5	2	1	11	2	5	4	.....	.....	.....	6	1.86	47.2
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.80	756.8	29.85	758.3	58.6	14.8	66	1	19	1	.....	5	.....	.....	2	2	2044	3290	8	4.82	122.4
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	26.89	683.1	29.88	758.9	47.8	8.8	68	1	2	4	6	6	.....	11	.....		6225	10018	8	3.41	86.7
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.63	701.9	29.85	758.2	54.7	12.6	58	.....	5	5	9	.....	.....	2	4	5	8566	13786	7	1.96	49.7
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	28.96	735.5	29.88	759.0	53.2	11.8	72	2	2	3	11	1	1	.....	10	.....	8274	13316	8	8.45	214.6
Sub-Series.																											
Havana	N. 23 08	W. 82 23	6.30 a.m.	62	19	29.97	761.2	29.98	761.5	72.3	22.4	84	1	.....	.....	.....	3	6	20	.....	.....	.....	.....	2	1.55	39.4
Manila	N. 14 35	E. 120 57	8.04 p.m.	52	16	29.88	758 9	29.86	758.6	80.8	27.1	64	2	.....	.....	.....	.....	17	11	.....	.....	.....	.....	2	0.90	22.8
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.91	759.7	29.99	761.7	59.5	15.3	71	.....	4	15	4	2	.....	4	.....	1	.....	.....	6	2.48	63.0
San Juan de Porto Itico	N. 18 30	W. 66 10	7.35 a.m.	82	25	29.96	761.0	29.99	761.8	76.1	24.5	76	.....	.....	.....	3	9	11	2	1	4	.....	.....	4	5.24	133.1
SWEDISH.																											
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.88	759.0	29.97	761.3	35.1	1.7	70	9	.....	1	1	6	4	3	2	4	.....	.....	6	0.84	21.3
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.86	758 5	29.96	761.0	38.3	3.5	67	3	1	1	8	4	.....	5	7	1	.....	.....	6	1.84	46.7
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.86	758.4	29.95	760 8	39.2	4.0	66	5	3	.....	.....	7	1	1	5	8	.....	.....	6	2.11	53.6
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.71	754.7	29.93	760.1	46.0	7.8	57	4	4	3	4	4	1	2	5	3	.....	.....	6	0.71	18.0
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.83	757.6	29.92	759.9	45.3	7.4	66	5	2	8	5	1	3	3	3	.....	.....	.....	3	0.95	24.1
Sub-Series.																											
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.78	756.5	29.91	759.7	45.5	7.5	56	7	4	2	4	3	3	2	5	.....	.....	.....	6	0.54	13.6
SWISS.																											
Geneva	N. 46 12	E. 6 08	0.25 p m.	1339	408	28.36	720.4	29.79	756.7	53.8	12.1	58	17	2	.....	3	5	1	1	1	.....	.....	.....	7	2.42	61.4
TURKISH.																											
Constantinople	N. 41 02	E. 28°59	1.56 p.m.	246	75	.....	.....	29.92	759.9	59.9	15.5	55	9	3	1	5	6	2	.....	4	.....	.....	.....	5	1.50	38.0
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	29.95?	760.7?	67.5	19.7	.....	.....	7	3	17	.....	3	.....	.....	.....	.....	.....	5	3.70	94.0
Sub-Series.																											
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.85	758.1	68.7	20.4	66	1	5	1	14	.....	2	.....	7	.....	.....	.....	6	3.43	87.1
UNITED STATES.																											
New Engl'd states.																											
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.89	759.2	29.96	761.0	37.7	3.2	71	4	8	2	1	6	.....	3	3	3	6760	10879	6	5.35	135.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.94	760.5	29.99	761.7	42.4	5.8	71	5	8	3	2	2	1	2	4	3	6296	10132	4	2.19	53.1
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.59	599.2	30.00	762.0	20.8	6.2	88	3	14	5	.....	2	2	.....	4	.....	25070	40345	4	2.66	67.6
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.88	758.9	30.01	762.2	43.1	6.2	69	6	7	8	3	4	.....	1	1	.....	9323	15003	3	3.30	83.8
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.00	762.0	30.02	762.5	41.8	5.4	80	5	6	6	2	3	.....	.....	6	2	8762	14100	4	2.65	67.3
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.00	762.0	30.04	763.0	44.6	7.0	69	5	5	3	2	2	2	.....	7	4	5711	9191	3	3.34	84.8
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.93	760.2	30.04	763.0	41.9	5.5	74	9	3	3	1	3	1	1	4	5	5856	9424	3	2.31	58.7
Mid. Atlan. states.																											
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.98	761.5	30.06	763.5	40.3	4.6	72	7	5	1	6	4	.....	.....	2	5	5125	8248	5	2.89	73.4
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.89	759 2	30.06	763.5	43.0	6.1	74	2	6	7	1	3	2	1	4	4	6838	11004	3	2.44	62.0
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.96	761.0	30.08	764.0	44.0	6.7	74	6	3	5	3	3	.....	1	4	5	7518	12099	5	2.54	64.5
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.05	763.3	30.07	763.8	42.5	5.8	77	3	6	7	3	2	2	4	3	.....	11987	17682	4	2.47	62.7
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.04	763.0	30.04	763.0	44.0	6.7	85	3	9	2	5	1	1	3	6	.....	5281	8499	5	1.68	42.7
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.04	763.0	30.06	763.5	45.4	7.4	77	6	2	8	2	1	2	5	4	.....	10491	16883	4	0.89	22.6
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.04	763.0	30.05	763.3	45.5	7.5	80	3	5	5	3	3	2	3	6	.....	10909	15757	5	1.87	47.5
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.05	763.3	30.08	764.0	47.9	8.8	64	2	6	6	1	3	.....	5	6	1	4333	6973	5	1.37	34.8
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.00	762.0	30.10	764.5	45.7	7.6	72	5	5	2	2	5	4	2	4	1	4947	7961	4	1.71	43.4
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.08	764.0	30.07	763.8	48.3	9.1	78	2	5	3	4	4	4	2	5	1	7694	12382	4	0.97	24.6
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.08	764.0	30.08	764.0	50.4	10.2	76	2	3	3	6	3	2	2	5	4	9649	15528	3	1.45	36.8
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.40	746.7	30.08	764.0	46.8	8.2	77	1	4	.....	5	2	2	2	5	4	3210	5166	4	1.39	35.3
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.06	763.5	30.07	763 8	52.5	11.4	77	3	4	3	5	3	3	2	7	.....	5864	9437	4	1.92	48.8
S Atlantic states.																											
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.09	764.3	30.08	764.0	51.4	10.8	84	6	2	3	3	4	1	1	8	2	10126	16296	4	3.95	100.3
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.08	764.0	30.07	763.8	56.3	13.5	82	3	3	3	.....	4	.....	3	12	2	7756	12482	4	3.16	80.3
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.09	764.3	30.07	763.8	55.8	13.2	85	6	2	2	4	2	3	3	7	1	10219	16436	4	2.33	59.2
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.06	763.5	30.08	764.0	55.2	12.9	82	9	2	6	1	2	1	3	5	1	7359	11843	5	1.91	48.5
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.05	763.3	30.08	764.0	57.0	13.9	72	5	3	2	7	1	3	.....	7	2	5545	8924	4	3.05	77.5
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.26	743.2	30.10	764.5	52.2	11.2	70	2	5	3	7	4	1	2	6	.....	4499	7240	5	2.83	71.9
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.04	763.0	30.06	763.5	58.9	14.9	79	1	6	3	8	.....	.....	2	9	1	5746	9247	5	1.17	29.7
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.96	761.0	30.10	764 5	54.2	12.3	84	2	4	3	1	4	6	1	5	4	2902	4670	4	1.68	42.9
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.03	762.7	30.09	764.3	60.5	15.8	79	4	3	4	8	3	3	2	3	.....	5899	9493	4	1.14	29.0
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.06	763.5	30.07	763.8	63.0	17.2	84	2	3	3	3	2	8	1	7	1	4900	7886	4	1.24	31.5
Florida penin'la.																											
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.06	763.5	30.04	763.0	65.2	18.4	82	2	.....	5	1	1	4	5	8	4	6018	9685	4	0.15	3.8
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.04	763.0	30.01	762.2	74.8	23.8	77	5	1	1	1	2	10	9	.....		7511	12088	4	0.47	11.9
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.09	764.3	30.08	764.0	66.1	18.9	83	7	3	4	1	1	.....	5	5	4	4262	6859	2	1.52	38.6
East Gulf states.																											
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.93	734.8	30.09	764.3	54.0	12.2	71	1	7	5	2	5	7	3	.....	.....	7439	11972	5	1.31	33.3
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.05	763.3	30.04	763.0	62.7	17.1	84	5	1	1	2	1	5	7	3	5	5913	9516	6	5.49	139.4
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.05	763.3	30.05	763.3	61.4	16.3	86	3	6	1	1	1	4	4	2	8	5230	8417	6	5.24	133.1
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.88	758.9	30.08	764 0	58.3	14.6	82	6	4	.....	1	1	1	3	9	5	4203	6764	5	3.92	99.6
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	244	74	29.80	756.9	30.03	762.7	59.9	15.5	75	4	1	.....	2	5	6	7	3	1	29291	47141	5	9.00	228.6
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.99	761.7	30.01	762 2	66.1	18.9	84	1	3	2	1	3	7	6	5	2	5742	9241	5	3.67	93.2
West Gulf states.																											
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.80	756.9	30.01	762.2	60.4	15.8	80	6	2	2	.....	8	6	4	2	.....	4673	7520	7	7.07	179.6
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.51	749.5	29.98	761.5	54.4	12 4	86	5	1	3	.....	2	3	8	2	6	4479	7208	5	7.63	193.8
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.71	754.6	29.99	761.7	58.1	14.5	77	7	.....	1	4	3	8	2	4	1	4894	7876	6	6.03	153.2
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.97	761.2	29.97	761.2	68.9	20.5	88	6	.....	.....	3	7	10	4	.....	.....	8555	13768	5	4.12	104.6
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.96	761.0	29.95	760.7	68.6	20.3	91	5	.....	1	2	6	9	3	3	1	10340	16640	6	5.19	131.8
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.47	748.5	30.00	762.0	60.0	15.6	87	4	2	.....	1	11	4	4	4	.....	7574	12189	7	5.14	130.6
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.15	740.4	29.92	760.0	62.9	17.2	86	5	.....	.....	2	3	4	8	5	3	7052	11349	7	5.12	130.0
Rio Grande valley.																											
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.88	758.9	29.89	759.8	70.1	21.2	96	4	1	.....	2	9	7	2	3	2	6686	10760	6	0.67	17.0
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.73	755.1	29.88	758.9	70.8	21.6	89	3	.....	.....	.....	.....	14	10	1	2	5988	9637	6	2.50	63.5
Ohio val. & Tenn.																											
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.27	743.4	30.08	764.0	53.8	12.1	80	2	5	3	4	7	4	.....	5	.....	5073	8164	5	1.60	40.6
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.06	738.1	30.08	764.0	49.3	9.6	80	4	.....	8	1	.....	1	6	5	5	4568	7351	5	1.93	49.0
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.71	754.6	30.02	762.5	56.9	13.8	73	1	8	1	1	3	10	1	5	.....	5590	8996	5	3.00	76.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.48	748.8	30.04	763.0	51.9	11.1	75	2	7	2	.....	4	6	7	2	.....	5562	8951	6	3.75	95.2
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.47	748.5	30.03	762.7	51.2	10.7	77	5	5	3	.....	3	7	4	2	1	5886	9472	6	4.94	125.5
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.10	739.1	30.04	763.0	45.7	7.6	78	4	4	2	2	3	5	7	3	.....	6949	11183	6	4.61	117.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.23	742.4	30.04	763.0	45.8	7.7	76	5	4	2	1	10	1	4	1	2	5209	8383	6	5.28	134.1
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.40	746.7	30.06	763.5	45.9	7.7	80	3	5	.....	1	1	13	2	4	1	5563	8953	6	3.34	84.8
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.19	741.4	30.06	763 5	43.2	6.2	86	2	4	1	5	6	5	3	4	.....	6171	9931	7	4.61	117.1
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.24	742.7	30.06	763.5	43.7	6.5	71	2	4	4	2	2	3	2	3	8	4098	6595	6	2.79	70.9
Lower lake region.																											
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.37	746.0	30.05	763.3	38.2	3.4	79	.....	6	2	12	2	2	3	2	1	8596	13834	6	2.96	75.2
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.29	744.0	30.05	763.3	37.6	3.1	80	1	1	5	6	6	1	4	6	.....	7423	11946	6	3.47	88.1
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.67	753.6	30.04	763.0	36.5	2.5	75	3	3	2	4	9	6	1	1	1	7968	12823	5	1.86	47.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.31	744.5	30.05	763.3	42.6	5.9	71	1	3	6	3	9	1	1	6	.....	7892	12701	5	2.25	57.1
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.37	746.0	30.06	763.5	41.9	5.5	75	2	5	3	10	3	2	4	1	.....	9767a	15718a	7	2.19	55.6
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.31	744.5	30.06	763.5	40.8	4.9	82	1	2	7	1	5	7	2	5	.....	7728	12437	7	2.52	64.0
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.35	745.5	30.05	763.3	42.0	5.6	80	2	2	7	5	4	1	5	3	1	6911	11122	7	2.41	61.2
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.33	745.0	30.05	763.3	40.6	4.8	73	2	2	6	4	6	3	2	5	.....	7749	12471	6	1.83	46.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for April, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Upper lake region.	° ′	° ′																								
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.36	745.7	30.05	763.3	30.4	— 0.9	84	1	4	8	2	2	4	5	3	1	7349	11827	6	2.28	57.9
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.35	745.5	30.04	763.0	30.2	— 1.0	74	13	2	1	1	7	1	1	3	1	7102	11429	6	3.16	80.3
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.35	745.5	30.03	762.7	39.5	4.2	78	6	3	1	2	5	2	5	5	1	9101	14646	6	1.38	35.1
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.39	746 5	30.07	763.8	31.5	— 0.3	79	4	8	2	2	1	3	7	1	2	6925	11144	5	1.88	47.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.29	744.0	30.05	763.3	31.6	— 0.2	79	4	13	3	2	2	3	.....	1	2	5604	9019	5	1.96	49.8
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	633	193	29.35	745.5	30.05	763.3	36.1	2.3	85	2	8	2	1	8	3	1	5	.....	6376	10261	5	1.26	32.0
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.30	744.2	30.02	762.5	42.8	6.0	81	2	5	3	1	5	4	6	3	1	6292	10126	6	4.00	101.6
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.28	743.7	30.05	763.3	37.0	2.8	83	4	4	2	3	5	3	2	5	2	8960	14420	7	2.32	58.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.28	743.7	30.04	763.0	32.5	0.3	72	2	7	3	1	1	2	2	9	3	5378	8655	5	0.89	22.6
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.12	739.6	30.00	762.0	39.5	4.2	82	2	8	1	.....	8	4	3	2	2	6656	10712	6	3.19	81.0
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.22	742 2	30.00	762.0	41.3	5.2	76	3	7	2	.....	9	2	3	3	1	6692	10770	7	1.85	47.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.35	745.5	30.01	762.2	44.5	6.9	77	2	5	2	4	2	5	6	4	.....	7546	12144	7	2.47	62.7
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.09	738.9	30.00	762.0	43.3	6.3	83	7	3	.....	3	7	5	1	3	1	4649	7482	7	3.62	91.9
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.30	744.2	30.01	762.2	42.1	5.6	81	4	5	1	.....	6	4	2	3	5	4276	6882	7	3.69	93.7
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.33	745.0	29.99	761.7	44.7	7.1	85	4	6	2	1	3	7	7	.....	.....	7308	11761	6	3.33	84.6
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.67	753.6	30.03	762.7	53.7	12.1	71	4	4	2	1	8	6	1	4	.....	8075	12995	6	1.43	36.3
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.33	745.0	29.99	761.7	47.4	8.6	74	.....	4	6	2	5	5	4	2	2	7577	12194	6	6.36	161 5
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.42	747.3	30.02	762.5	51.7	10.9	73	2	4	3	3	5	6	5	1	1	9339	15029	6	4.84	122.9
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	30.01	762.2	47.4	8.6	85	5	4	1	2	4	3	2	4	5	4490	7226	7	6.63	168.4
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.81	731.8	29.99	761.7	43.9	6.6	82	11	3	1	2	6	5	.....	2	.....	7767	12500	6	6.34	161.0
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.37	720.6	30.01	762.2	36.7	2.6	78	11	3	.....	.....	2	9	.....	3	2	7834	12607	5	1.84	46.7
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.58	725.9	30.03	762.7	36.2	2.3	74	4	5	.....	1	4	11	2	1	2	8198	13161	5	1.06	26.9
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.67	728.2	30.01	762.2	39.5	4.2	84	7	4	.....	3	2	4	1	1	8	6436	10358	6	5.08	129.0
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.92	734.6	30.00	762.0	49.3	9.6	82	2	2	.....	3	10	7	2	4	.. ...	9123	14682	6	6.64	168 7
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.96	735.6	30.00	762 0	33.8	1.0	87	8	3	.....	2	9	5	3	.....	.....	9273	14923	6	3.43	87.1
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.11	739.4	30.03	762.7	29.9	— 1.2	88	4	7	1	.....	7	10	.....	1	.....	8899	14321	6	2.85	72.4
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.14	714.7	30.02	762.5	35.3	1.8	88	8	5	1	2	1	6	2	3	2	6666	10728	6	3.21	81.5
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.91	708.9	30.02	762.5	35.3	1.8	81	3	8	3	1	5	3	.....	7	.....	8446	13592	6	1.71	43.4
Fort Totten.g	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.30	718.8	29.98	761.5	33.6	0.9	87	3	4	2	3	4	2	1	2	2	8309	13372	5	3.07	78.0
Northern slope.																										
Fort Assinaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.13	689.1	30.05	763.3	36.7	2.6	79	.....	.....	5	9	1	.....	6	1	8	6385	10275	4	0.38	9.7
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.21	691.1	30.07	763.8	36.2	2.3	66	1	2	4	6	.....	1	1	4	11	4878	7850	4	0.64	16.3
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.80	680.7	29.98	761.5	35.5	1.9	82	4	4	1	2	.....	6	7	5	1	5518	8880	4	0.51	13.0
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.53	648.5	30.03	762.7	36.9	2.7	61	6	.....	14	2	2	3	1	2	.....	7528	12115	4	1.01	25.7
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.33	668.8	30.01	762.2	39.0	3.9	54	.....	4	16	5	.....	.....	.....	5	.....	5750	9254	3	0.60	15.2
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.78	654.8	29.99	761.7	39.9	4.4	66	6	2	4	18	.....	.....	.....	.....	.....	5053	8132	6	1.00	25.4
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.80	706.1	30.01	762.2	34.0	1.1	88	5	3	15	1	1	2	1	2	.....	6964	11207	4	0.77	19.6
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.32	643.1	30.01	762.2	36.0	2.2	77	2	1	1	13	2	1	1	9	.....	3276	5272	5	3.11	70.0
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.93	607.8	29.94	760 5	33.7	0.9	82	8	10	6	.....	2	1	1	2	.....	7706	12401	6	3.76	95.5
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.02	680.3	29.96	761.0	43.7	6.5	76	5	1	5	.....	.....	8	4	.....	7	7287	11727	5	1.59	40.4
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.66	448.6	29.93	760.2	12.6	—10.8	87	5	5	12	2	.....	3	2	.....	1	15012	24159	5	5.39	136.9
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.66	626.4	29.92	760 0	37.8	3.2	76	2	5	2	2	13	3	1	2	.....	5154	8294	6	4.94	125.5
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	25 94	658 9	29.87	758.7	41.1	5.1	74	2	...	8	4	1	1	8	4	2	7241	11653	4	0.45	11.4
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.35	694.7	29.95	760 7	44.9	7.2	83	2	7	1	.....	3	11	1	4	1	11323	18222	4	1.39	35.3
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.19	690.0	29.95	760.7	47.6	8.7	80	3	7	1	.....	9	5	.....	2	3	9795	15763	5	4.67	118.6
Southern slope.																										
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.70	729.0	29.91	759.7	52.1	11.2	87	6	4	.....	3	5	5	1	2	4	10107	16265	5	2.62	66.5
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.06	712 7	29.97	761.2	55.8	13.2	86	.....	1	5	5	7	2	4	5	1	7755	12480	5	4.16	105.7
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	26 95	684.5	29.95	760.7	49.4	9.7	71	.....	.....	.....	6	15	7	1	.....	1	7568	12179	2	0.73	18.5
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.41	638.5	29.90	759.4	52.0	11.1	60	.....	3	7	17	1	.....	.....	1	1	5818	9363	4	0.46	11.7
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.22	666.0	.....	.....	48.4	9.1	64	6	1	1	6	3	3	2	5	3	5378	8655	2	0.82	20.8
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.22	589.8	29.97	761.2	39.2	4.0	66	6	.....	1	1	4	7	3	7	1	5646	9086	5	1.38	35.1
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.17	690 1	29.87	758.7	45.2	7.3	70	1	.....	3	10	2	.....	.....	.....	14	.....	.....	2	0.14	3.6
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	24.99	634.7	29.89	759 2	41.9	5.5	05	.....	.....	4	2	4	2	6	12	.....	5648	9089	3	0.52	13.2
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.19	639.8	29.88	758.9	48.8	9.3	58	11	6	.....	.....	.....	5	1	7	.....	5268	8478	1	0.04	1.0
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.66	626.4	29.91	759.7	41.0	5.0	70	.....	1	.....	1	9	5	2	.....	12	6735	10839	3	0.62	15.7
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.74	755.4	29.86	758.4	59.8	15.4	70	.....	10	2	8	.....	2	.....	6	2	5640	9086	2	0.07	1.8
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.21	665.7	29.92	760.0	51.7	10.9	47	1	3	14	3	1	.....	3	3	2	3949	6355	3	0.04	1.0
Middle plateau.																										
Salt Lake City.a	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.54	548.7	29.90	759 4	46.2	7.9	73	.....	3	.....	1	2	4	1	2	16	3006	4838	6	3.47	88.1
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.57	649.5	29.97	761.2	39.2	4.0	75	.....	1	.....	13	1	1	11	2	5615	9036	3	1.00	25.4
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.24	615.7	29.99	761.7	38.4	3.6	84	.....	2	3	5	1	11	8	.....	.....	5401	8692	6	1.86	47.2
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.10	688.3	29.94	760.5	42.6	5.9	72	1	8	1	1	2	8	4	.....	5	3673	5911	2	0.09	2.3
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.21	741.9	30.01	762.2	43.6	6.4	77	.....	3	.....	.....	.....	1	.....	5	21	1960	3154	2	0.19	4.8
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.98	710.7	30.05	763.3	39.7	4.3	74	1	1	2	5	1	1	8	3	8	3637	5853	1	0.27	6.9
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.25	717.5	30.01	762.2	39.6	4.2	73	.....	.....	1	7	2	3	5	6	6	4139	6661	2	0.06	1.5
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.87	758.7	30.07	763.8	46.4	8.0	89	13	1	7	1	3	.....	.....	4	1	4863	7826	5	1.12	28.4
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.04	763.0	30.08	764.0	39.4	4.1	90	.....	.....	.....	1	.....	.....	.....	.....	29	1303	2097	3	0.39	9.9
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.04	763.0	.....	.....	37.1	2.8	93	.....	.....	4	6	18	.....	.....	.....	2	3045/	4900/	2	0.71	18.0
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.97	761.2	30.07	763.8	45.4	7.4	87	.....	2	4	7	2	3	7	4	1	6709	10797	6	0.37	9.4
Portland	N. 45 32	W. 122 43	3.49 a.m.	67	20	29.98	761.5	30.06	763.5	44.1	6.7	83	.....	3	.....	.....	2	1	.....	.....	24	2396	3856	3	1.12	28.4
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.50	749.3	30.06	763 5	42.7	5.9	92	1	1	.....	.....	1	.....	2	.....	25	1885	3034	4	1.21	30.7
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.32	744 7	30.00	762 0	47.6	8.7	86	9	8	.....	.....	2	5	.....	.....	6	11471	18460	4	0.92	23.4
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.63	752.6	29.97	761.2	53.9	12.2	79	7	9	.....	.....	4	.....	5	1	4	4488	7223	4	0.62	15.7
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.90	759.4	29.96	761.0	53.8	12.1	84	3	.....	1	2	13	9	.....	.....	2	5069	8158	3	0.68	17.3
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.93	760.2	29.98	761.5	54.3	12.4	85	.....	7	7	11	2	.....	.....	2	1	6836	11001	6	3.17	80.5
S. Pac. coast reg'n.																										
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.62	752.3	29.99	761.7	54.3	12.4	83	2	.....	3	.....	.....	2	13	5	5	4311	6938	6	2.01	51.1
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.91	759.7	29.95	760.7	56.7	13.7	84	2	1	2	1	1	.....	2	4	17	3647	5869	5	1.20	30.5
Alaska stations.																										
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.68	753.9	29.76	755.9	23.7	— 4.6	87	10	.....	1	3	5	2	6	3	.....	12299	19793	8	0.77	19.6
Sitka	N. 57 03	W. 135 19	2.59 a m	63	19	29.98	761 5	30.08	764.0	39.5	4.2	82	.....	4	2	4	.....	14	1	2	3	6314	10161	7	13.42	340.9
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.65	753.1	29.69	754.1	35.0	1.7	78	.....	2	2	14	3	9	.....	.....	.....	9220	14838	8	12.40	315.0
Sub-Series.																										
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.75	755.6	29.80	756.9	26.3	— 3.2	92	9	5	2	1	3	1	2	6	1	7984	12849	8	0.86	21.8
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.96	761.0	29.91	759.7	75.9	24.4	85	.....	23	.....	.....	.....	3	3	1	.....	.....	.....	6	2.87	72.9
Cay Sal Light H	N. 23 56	W. 80 28	6.38 a.m.	?	?	30.00	762.0	.....	.....	76.8	21.9	81	1	4	.....	1	...	3	12	7	2	.....	.....	4	1.11	28.2
Kingstonb	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	30.02	762.5	76.4	24.7	78	9	.....	.....	.....	.....	1	1	.....	17	870	1400	2	0.47	11.9
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.02	762.5	29.95	760.7	78.4	25.8	82	.....	1	.....	1	2	2	24	.....	.....	.....	.....	5	5.17	131.3
Rivasb	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.6	25.3	78	.....	.....	.....	.....	.....	1	5	22	.....	.....	.....	4	.....	.....

OCEAN SQUARE DATA FOR APRIL, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.96	761.0	76.1	24.5							4	25		1	4.4
12.5 27.5	30.00	762.0	76.8	24.9							7	22		1	4.6
12.5 32.5	30.02	762.5	77.0	25.0							18	12			4.7
12.5 37.5	30.03	762.7	77.6	25.3							25	5			4.9
12.5 42.5	30.04	763.0	77.9	25.5					1		27	2			5.0
12.5 47.5	30.03	762.7	78.3	25.7					1		29				5.2
12.5 52.5	30.01	762.2	79.1	26.2					4		25	1			5.2
17.5 22.5	30.02	762.5	73.2	22.9							6	23		1	5.0
17.5 27.5	30.05	763.3	73.4	23.0					1		11	16		2	4.9
17.5 32.5	30.08	764.0	74.4	23.6							21	9			4.9
17.5 37.5	30.09	764.3	75.1	23.9							27	3			4.7
17.5 42.5	30.09	764.3	75.7	24.3					3		25	2			5.0
17.5 47.5	30.08	764.0	76.6	24.8					5		25				5.1
17.5 52.5	30.05	763.3	77.6	25.3					6		24				5.0
17.5 57.5	30.01	762.2	79.2	26.2					2	5	23				4.8
22.5 22.5	30.09	764.3	70.4	21.3							8	22			4.4
22.5 27.5	30.12	765.0	70.3	21.3	1						17	11		1	4.6
22.5 32.5	30.14	765.5	72.0	22.2	1					1	17	9		2	4.8
22.5 37.5	30.15	765.8	72.8	22.7						7	16	4		3	4.7
22.5 42.5	30.15	765.8	73.8	23.2	1				2	13	12	1		1	4.4
22.5 47.5	30.13	765.3	74.9	23.8		1			3	14	10	1		1	4.8
22.5 52.5	30.10	764.5	75.4	24.1	2				11	6	10	1			4.9
22.5 57.5	30.06	763.5	75.9	24.4	1		1	2	9	8	7	2			4.8
22.5 62.5	30.03	762.7	75.8	24.3	2	1	3	3	6	5	8	1	1		4.1
22.5 67.5	30.02	762.5	75.6	24.2	2	2		3	3	10	6	3	1		4.1
22.5 72.5	30.01	762.2	75.7	24.3	1	1	1	1	5	10	6	4	1		3.6
27.5 22.5	30.17	766.3	67.9	19.9	5	1					9	15			3.9
27.5 27.5	30.20	767.1	68.9	20.5	1					4	10	13		2	4.0
27.5 32.5	30.21	767.3	69.4	20.8	1				2	2	14	8		3	4.2
27.5 37.5	30.23	767.8	70.3	21.3					4	5	12	6		3	4.7
27.5 42.5	30.21	767.3	71.2	21.8		1		1	11	6	10	1			4.6
27.5 47.5	30.18	766.6	72.3	22.4		1	1	2	10	9	6	1			5.0
27.5 52.5	30.10	764.5	72.7	22.6	2	1	1	6	11	5	3	1			5.0
27.5 57.5	30.05	763.3	72.3	22.4	2	2	5	7	8	3	2	1			5.0
27.5 62.5	30.04	763.0	71.8	22.1	3	7	1	8	4	1	5	1			4.6
27.5 67.5	30.07	763.8	71.8	22.1	5	4	3	3	4	4	1	5		1	4.4
27.5 72.5	30.03	762.7	72.1	22.3	6	1	1	5	5	3	6	3			4.3
27.5 77.5	30.04	763.0	72.5	22.5	3	3	1	2	2	1	11	5		2	3.3
32.5 12.5	30.09	764.3	62.6	17.0	16	5	2					7			4.1
32.5 17.5	30.17	766.3	63.4	17.4	20	1	2		1			5	1		3.7
32.5 22.5	30.23	767.8	65.7	18.7	14	1			1		5	8		1	3.5
32.5 27.5	30.27	768.8	67.0	19.4	4	2		1	4	5	4	8		2	3.7
32.5 32.5	30.27	768.8	67.3	19.6	5			4	5	4	8	3		1	3.7
32.5 37.5	30.24	768.1	67.7	19.8	3	1	1	5	9	3	6	1		1	3.8
32.5 42.5	30.21	767.3	67.6	19.8			2	9	10	3	5			1	4.3
32.5 47.5	30.15	765.8	68.2	20.1	1	1	4	11	5	6		1		1	4.7
32.5 52.5	30.08	764.0	68.3	20.2	1	1	3	12	7	5		1			5.1
32.5 57.5	30.00	762.0	67.6	19.8		4	6	9	6	2	2	1			5.0
32.5 62.5	30.00	762.0	66.1	18.9	3	7	4	5	3	1	5		1	1	4.6
32.5 67.5	30.03	762.7	66.3	19.1	5	5	4	5		1	3	5	1	1	4.7
32.5 72.5	30.05	763.3	65.7	18.7	8	2	3	4		1	5	5	2		4.3
32.5 77.5	30.07	763.8	63.1	17.3	7	2	3	1	3	3	5	6			3.6
37.5 12.5	30.04	763.0	59.0	15.0	6	10	9					5			4.8
37.5 17.5	30.13	765.3	60.6	15.9	5	15	4	1				4		1	4.4
37.5 22.5	30.21	767.3	63.0	17.2	3	15	5		1			4	1	1	3.2
37.5 27.5	30.26	768.6	64.5	18.1	5	8	6	6	3			2			3.2
37.5 32.5	30.22	767.6	64.3	17.9		6	7	13	2		1	1			4.0
37.5 37.5	30.19	766.8	64.0	17.8		6	4	14	4	1		1			4.5
37.5 42.5	30.15	765.8	63.5	17.5	1	2	7	14	4	1	1				4.7
37.5 47.5	30.09	764.3	62.4	16.9	3	2	3	15	2	4		1			5.0
37.5 52.5	30.01	762.5	62.5	16.9	1	4	2	13	4	4	1	1			5.0
37.5 57.5	29.95	760.7	61.5	16.4	3	4	3	6	5	3	3	2		1	5.5
37.5 62.5	29.96	761.0	58.3	14.6	6	6	2	3	4	1	2	6			5.5
37.5 67.5	29.99	761.7	55.7	13.2	9	4	4	4	2		1	6			5.5
37.5 72.5	30.04	763.0	53.5	11.9	5	6	3	1	1	3	2	7		2	4.4
42.5 12.5	29.92	760.0	56.2	13.4	3	12	9	1				5			4.5
42.5 17.5	30.00	762.0	57.2	14.0	3	12	8	1			2	3	1		4.9
42.5 22.5	30.07	763.8	59.1	15.1	2	13	8	6				1			5.0
42.5 27.5	30.09	764.3	59.9	15.5		7	14	6	1			1		1	5.4
42.5 32.5	30.07	763.8	59.5	15.3		6	11	11	1			1			5.2
42.5 37.5	30.05	763.3	59.2	15.1	1	7	8	12	2						5.4
42.5 42.5	30.03	762.7	56.8	13.8	3	5	6	12	2		1			1	5.3
42.5 47.5	29.98	761.5	52.8	11.6	4	2	3	14	1	1			1	4	4.8
42.5 52.5	29.93	760.2	49.2	9.6	5	6	6	4	3	4	1	1			4.6
42.5 57.5	29.92	760.0	48.7	9.3	4	5	6	3	2	5	1	4			4.3
42.5 62.5	29.95	760.7	45.4	7.4	6	7	2	4	2	4	1	4			4.9
42.5 67.5	30.00	762.0	43.1	6.2	8	5	4	3	2	3	2	1	2		3.8
47.5 12.5	29.82	757.4	53.5	11.9	5	4	6	9			2	3	1		5.0
47.5 17.5	29.86	758.4	53.5	11.9	4	6	10	7	1	1		1			5.3
47.5 22.5	29.86	758.4	54.1	12.3	2	9	6	11				2			5.4
47.5 27.5	29.87	758.7	53.6	12.0	2	7	10	7	4						5.7
47.5 32.5	29.87	758.7	52.6	11.4		7	9	9	4					1	5.6
47.5 37.5	29.86	758.4	50.3	10.2		8	9	9	3				1		5.5
47.5 42.5	29.84	757.9	46.9	8.3	1	8	4	12	4					1	5.2
47.5 47.5	29.80	756.9	41.1	5.1	4	3	7	13	2	1					4.6
52.5 12.5	29.73	755.1	50.3	10.2		3	4	8	5	3	4	2		1	5.1
52.5 17.5	29.73	755.1	50.1	10.1		5	4	7	5	3	2	4			5.4
52.5 22.5	29.69	754.1	48.8	9.3	2	0	3	8	4	5		2			5.5
52.5 27.5	29.70	754.4	47.6	8.7	3	6	4	7	3	2	1	3	1		5.4
52.5 32.5	29.73	755.1	46.3	7.9	1	9	4	6	7	1		2			5.5
52.5 37.5	29.72	754.9	43.8	6.6	4	6	3	5	7	3				2	5.4
52.5 42.5					1	5	1	3	4	3				13	
52.5 47.5					1	3		2	1	1		1		21	
57.5 12.5	29.69	754.1	45.5	7.5	1	1	4	8	4	2	5	3		2	5.0
57.5 17.5	29.66	753.4	44.4	6.9	1	2	4	6	2	5	5	3		2	5.1
57.5 22.5	29.65	753.1	42.7	5.9	3	2	3	3	1	7	4	4	1	2	5.2
57.5 27.5	29.67	753.6	41.1	5.1	3	3	2	2	2	8		6	1	3	5.3
57.5 32.5	29.69	754.1	40.0	4.4	3	3	1	2		9	1	4		7	5.5
57.5 37.5					2	2	1			9		2		14	
57.5 42.5										2				28	
57.5 47.5															

RETARDED DATA.—GODTHAAB, GREENLAND (N. 64° 11′, W. 51° 46′).

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the Air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
									Miles per hour	Metres per sec.		Upper.	Lower.	Upper.	Lower.			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.			0–10	0–10	0–10	From.	From.	Inch.	Mill.	
1884.																		
December 1	28.96	735.6	29.00	736.7	18.0	— 7.8	97	nne.			3		10					snowing.
2	28.85	732.7	28.89	733.8	19.0	— 7.2	78	ne.			3		10					
3	29.97	735.9	29.02	737.0	14.5	— 9.7	84	ene.			2		6					
4	29.16	730.7	29.21	741.8	14.7	— 9.6	87	ene.			2		10					
5	29.14	740.2	29.19	741.3				nne.			3		2					
6	29.50	749.4	29.55	750.5	17.4	— 8.1	77	nne.			2		10					
7	29.62	752.4	29.67	753.5	10.9	—11.7	78	nne.			3		10					snowing.
8	29.66	753.4	29.71	754.5	6.4	—14.2	92	ene.			2		3					
9	29.41	746.9	29.45	718.0	6.4	—14.2	100	nne.			3		4					
10	29.45	747.9	29.49	749.0	12.0	—11.1	79	nw.			2		10					
11	29.46	748.3	29.50	749.4	13.6	—10.2		ne.			3		10					
12	29.24	742.8	29.29	743.9	10.2	—12.1	100	nw.			2		10					snowing.
13	29.27	743.5	29.32	744.6	0.9	—17.3	95	se.			2		6					
14	29.31	745.1	29.38	746.2	6.4	—14.2	92	nne.			2		5					
15	29.56	750.8	29.60	751.9	5.0	—15.0	96	ene.			2		10					
16	29.79	756.7	29.44	757.8				e.			2		5					
17	29.36	745.7	29.40	746.8				nne.			5		8					
18	29.17	74[illegible].6	29.52	749.7				ne.			2		10					
19	29.28	743.8	29.33	744.9				nne.			5		5					
20								ene.			3		10					
21	28.65	727.6	28.69	728.7				nw.			3		10					snowing.
22	29.62	752.4	29.67	753.5				s.			3		10					snowing.
Mean	29.33	744.9	29.35	745.4									47.9					

IVIGTUT, GREENLAND (N. 61° 12′, W. 48° —′).

1884.																		
September 1	30.00	762.0	30.02	762.5	39.2	4.0		calm			0		10					foggy.
2	29.69	754.2	29.71	754.7	43.7	6.5		ssw.			3		10					
3	29.27	743.5	29.29	744.0	52.3	11.3		se.			5		10					
4	29.56	750.8	29.58	751.3	45.7	7.6		calm			0		10					
5	29.60	751.9	29.62	752.4	39.7	4.3		calm			0		10					foggy.
6	29.58	751.4	29.60	751.9	42.4	5.8		calm			0		2					
7	29.52	749.7	29.54	750.2	37.6	3.1		calm			0		10					foggy.
8	29.48	748.9	29.50	749.4	43.7	6.5		calm			0		10					
9	29.25	743.0	29.27	743.5	38.8	3.8		calm			0		10					
10	29.24	742.7	29.26	743.2	37.0	2.8		calm			0		10					foggy.
11	29.52	749.9	29.54	750.4	39.4	4.1		calm			0		10					
12	29.75	755.6	29.77	756.1	38.7	3.7		calm			0		8					
13	29.71	754.7	29.73	755.2	39.7	4.3		calm			0		10					
14	29.34	745.2	29.36	745.7	42.4	5.8		calm			0		10					raining.
15	29.45	748.0	29.47	748.5	37.9	3.3		calm			0		10					raining.
16	29.33	744.9	29.35	745.4	36.3	2.4		calm			0		10					snowing.
17	29.43	747.4	29.45	747.9	36.9	2.7		calm			0		10					
18	29.29	743.9	29.31	744.4	43.5	6.4		se.			7		10					raining.
19	29.58	751.3	29.60	751.8	35.4	1.9		calm			0		10					snowing.
20	29.83	757.6	29.85	758.1	35.2	1.8		nw.			5		5					
21	29.81	757.1	29.83	757.6	37.9	3.3		w.			2		10					
22	29.59	751.6	29.61	752.1	37.8	3.2		calm			0		10					raining.
23	29.58	751.3	29.60	751.8	37.9	3.3		calm			0		10					raining.
24	29.30	744.2	29.32	744.7	38.8	3.8		calm			0		10					snow & fog.
25	29.51	749.5	29.53	750.0	34.9	1.6		n.			3		5					
26	28.99	736.3	29.01	736.8	30.7	— 0.7		n.			3		0					
27	29.08	738.7	29.10	739.2	32 7	0.4		ne.			6		5					
28	29.41	747.1	29.43	747.6	29.1	— 1.6		calm			0		5					
29	29.41	747.1	29.43	747.6	28.0	— 2.2		ne.			3		0					
30	29.61	752.2	29.63	752.7	28.0	— 2.2		n.			2		0					
Mean	29.49	749.1	29.51	749.6	38.1	3.4							8.0					
October 1	29.65	753.0	29.67	753.5	28.2	— 2.1		calm			0		0					
2	29.71	754.7	29.73	755.2	30.0	— 1.1		calm			0		7					
3	29.51	749.6	29.53	750.1	28.0	— 2.2		calm			0		10					
4	29.18	741.1	29.20	741.6	31.8	— 0.1		ne.			2		10					
5	29.83	757.6	29.85	758.1	29.8	— 1.2		nw.			5		8					
6	30.43	772.9	30.45	773.4	24.4	— 4.2		ne.			1		0					
7	30.46	773.6	30.48	774.1	28.0	— 2.2		calm			0		8					
8	30.26	768.5	30.28	769.0	33.3	0.7		calm			0		9					
9	29.57	751.1	29.59	751.6	57.9	14.4		se.			5		10					raining.
10	29.71	754.7	29.73	755.2	43.5	6.4		se.			2		10					raining.
11	29.68	753.8	29.70	754.3	33.4	0.8		calm			0		10					rain & snow.
12	29.45	748.0	29.47	748.5	35.4	1.9		calm			0		9					
13	29.35	745.4	29.37	745.9	32.9	0.5		calm			0		10					
14	29.79	756.6	29.81	757.1	30.0	— 1.1		calm			0		8					
15	29.33	744.9	29.35	745.4	30.9	— 0.6		calm			0		10					
16	29.80	756.8	29.82	757.3	24.3	— 4.3		calm			0		0					
17	28.86	733.1	28.88	733.6	34.9	1.6		sw.			3		10					
18	29.39	746.5	29.41	747.0	35.2	1.8		se.			3		10					snowing.
19	29.13	739.8	29.15	740.3	37.0	2.8		calm			0		10					raining.
20	29.11	739.4	29.13	739.9	32.2	0.1		nw.			3		9					
21	28.88	733.5	28.90	734.0	28.0	— 2.2		calm			0		9					
22	29.28	743.7	29.30	744.2	29.8	— 1.2		n.			7		9					
23	29.43	747.4	29.45	747.9	25.3	— 3.7		calm			0		10					
24	29.45	748.0	29.47	748.5	32.5	0.3		calm			0		10					
25	29.76	755.8	29.78	756.3	19.9	— 6.7		n.			2		5					
26	30.06	763.5	30.08	764.0	20.8	— 6.2		calm			0		0					
27	29.79	756.7	29.81	757 2	18.1	— 7.7		calm			0		0					
28	29.66	753.4	29.68	753.9	18.3	— 7.6		calm			0		3					
29	29.45	748.0	29.47	748.5	10.0	—12.2		calm			0		0					
30	29.33	745.0	29.35	715.5	14.4	— 9.8		calm			0		0					
31	29.60	751.8	29.62	752.3	16.2	— 8.8		n.			3		0					
Mean	29.18	751.2	29.60	751.7	28.9	— 1.7							6.6					

IVIGTUT, GREENLAND—Continued.

DATE.	Barometer. Corrected for instrumental error and temperature.		Barometer. Reduced to sea-level.		Temperature of the air.		Relative Humidity	Wind. Direction.	Wind. Velocity.		Wind. Force	Clouds. Amount.		Clouds. Direction.		Rainfall or melted snow in past 24 hours.		WEATHER.
												Upper.	Lower.	Upper.	Lower.			
	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.	Per cent.	From.	Miles per hour	Metres per sec.	0–10	0–10	0–10	From.	From.	Inch.	Mill.	
1884.																		
November 1...	29.88	759.0	29.90	759.5	16.7	— 8.5		calm			0		0					
2...	29.78	756.3	29.80	756.8	19.8	— 6.8		calm			0		9					
3...	29.68	753.8	29.70	754.3	13.6	—10.2		calm			0		0					
4...	29.79	756.6	29.81	757.1	17.6	— 8.0		calm			0		9					
5...	29.80	756.8	29.82	757.3	18.0	— 7.8		calm			0		7					
6...	29.76	756.0	29.78	756.5	11.8	—11.2		e.			2		0					
7...	29.15	740.3	29.17	740.8	16.2	— 8.8		calm			0		9					
8...	29.08	738.5	29.10	739.0	14.0	—10.0		calm			0		1					
9...	29.39	746.2	29.40	746.7	11.5	—11.4		calm			0		0					
10...	29.14	740.1	29.16	740.6	7.9	—13.4		calm			0		0					
11...	28.95	735.3	28.97	735.8	8.4	—13.1		calm			0		2					
12...	29.22	742.2	29.24	742.7	9.1	—12.7		calm			0		3					
13...	29.45	748.0	29.47	748.5	7.3	—13.7		calm			0		0					
14...	29.56	750.7	29.58	751.2	5.4	—14.8		calm			0		0					
15...	29.63	752.5	29.65	753.0	19.0	— 7.2		calm			0		9					
16...	29.22	742.2	29.24	742.7	41.7	5.4		se.			5		10					raining.
17...	29.04	737.5	29.06	738.0	51.4	10.8		se.			8		10					
18...	30.27	768.8	30.29	769.3	29.1	— 1.6		se.			3		10					snowing.
19...	30.13	765.2	30.15	765.7	37.9	3.3		se.			7		10					
20...	30.16	766.0	30.18	766.5	35.4	1.9		calm			0		10					raining.
21...	29.92	759.9	29.94	760.4	51.3	10.7		se.			3		10					
22...	29.69	754.1	29.71	754.6	43.3	6.3		se.			3		10					
23...	29.61	752.2	29.63	752.7	39.9	4.4		s.			2		9					
24...	29.89	759.3	29.91	759.8	31.6	— 0.2		calm			0		0					
25...	29.93	760.3	29.95	760.8	31.6	— 0.2		calm			0		10					foggy.
26...	29.98	761.4	30.00	761.9	25.0	— 3.9		sw.			3		10					snowing.
27...	30.07	763.8	30.09	764.3	29.8	— 1.2		se.			5		10					snowing.
28...	29.24	742.7	29.26	743.2	39.7	4.3		se.			3		10					raining.
29...	29.79	756.7	29.81	757.2	27.3	— 2.6		se.			2		10					snowing.
30...	28.50	723.9	28.52	724.4	33.8	1.0		calm			0		10					snowing.
Mean.....	29.59	751.5	29.61	752.0	24.8	— 4.0							6.3					
December 1...	28.92	734.6	28.94	735.1	25.3	— 3.7		nw.			3		10					
2...	28.72	729.6	28.74	730.1	22.8	— 5.1		nw.			5		10					
3...	29.01	736.9	29.03	737.4	21.6	— 5.8		ne.			3		6					
4...	29.21	741.8	29.22	742.3	20.1	— 6.6		calm			0		9					
5...	29.08	738.5	29.10	739.0	27.1	— 2.7		calm			0		9					
6...	29.37	746.0	29.39	746.5	27.0	— 2.8		n.			3		9					
7...	29.56	750.7	29.58	751.2	18.3	— 7.6		ne.			3		3					
8...	29.63	752.5	29.65	753.0	14.0	—10.0		ne.			3		0					
9...	29.31	744.4	29.33	744.9	8.4	—13.1		calm			0		7					
10...	29.46	748.3	29.48	748.8	11.3	—11.5		calm			0		2					
11...	29.37	746.0	29.39	746.5	14.7	— 9.6		ne.			3		0					
12...	29.22	742.3	29.24	742.8	13.3	—10.4		ne.			3		5					
13...	29.26	743.2	29.28	743.7	12.2	—11.0		ne.			2		0					
14...	29.33	744.9	29.35	745.4	10.2	—12.1		ne.			3		5					
15...	29.57	751.0	29.59	751.5	10.6	—11.9		ne.			2		5					
16...	29.76	755.8	29.78	756.3	5.7	—14.6		calm			0		0					
17...	29.06	738.1	29.08	738.6	30.2	— 1.0		se.			2		10					
18...	29.48	748.9	29.50	749.4	22.6	— 5.2		calm			0		8					
19...	29.20	741.6	29.22	742.1	28.8	— 1.8		se.			6		9					
20...	29.14	740.2	29.16	740.7	23.7	— 4.6		w.			2		10					
21...	29.02	737.0	29.04	737.5	21.4	— 5.2		sw.			5		10					snowing.
22...	29.72	755.0	29.74	755.5	16.9	— 8.4		n.			5		10					
23...	29.82	757.4	29.84	757.9	10.6	—11.9		ne.			2		0					
24...	29.13	740.0	29.15	740.5	25.5	— 3.6		sw.			5		10					
25...	29.95	760.7	29.97	761.2	16.9	— 8.4		w.			2		9					snowing.
26...	29.67	753.7	29.69	754.2	5.0	—15.0		n.			2		0					
27...	29.69	754.2	29.71	754.7	4.8	—15.1		ne.			2		5					
28...	29.53	750.0	29.55	750.5	8.2	—13.2		n.			5		3					
29...	29.58	751.4	29.60	751.9	4.8	—15.1		ne.			3		0					
30...	29.21	741.9	29.23	742.4	6.4	—14.2		calm			0		0					
31...	29.19	741.3	29.21	741.8	12.7	—10.7		calm			0		10					
Mean.....	29.36	745.7	29.38	746.2	16.3	— 8.7							5.6					

REVIEW.

INTERNATIONAL METEOROLOGY FOR APRIL, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of April, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, mean time:

Three prominent areas of barometric minima appear on the chart; the first occupies British India, where the pressure ranges from 29.60 (751.8) to 29.70 (754.4); the second is enclosed by the isobar of 29.7 (754.4), and occupies the north Atlantic between N. 50° and 60°; the third, enclosed by the isobar of 29.8 (756.9), is located over the southern portion of central Europe and the Italian Peninsula.

The area of highest mean pressure for the month is located over the Azores and the ocean to the southwest, where the pressure exceeds 30.2 (767.1). A second area of high mean pressure is found in the centre of Asia, where the pressure is reported above 30.10 (764.5). In the United States the mean pressure is greatest on the north Pacific coast and along the Appalachian mountain range. Over the extensive area west of the Mississippi and Missouri rivers, excepting on the northern border, the mean pressure ranges from 29.86 (758.4) to 30.00 (762.0).

Compared with the chart for the preceding month (March, 1885), there has been a slight increase of pressure on the northeast border of the United States and in the Canadian Maritime Provinces, while over all other portions a decrease has taken place. The difference is very slight along the Atlantic coast, but increases westward to the Rocky Mountains, where the decrease ranges from .20 to .30 inch. Over the Atlantic Ocean a general decrease has occurred. Over the British Isles the pressure has fallen .30 inch and over France about .20 inch. Over the Iberian Peninsula a decrease has occurred, except on the western coast where a slight increase is shown. Throughout Germany and Italy a marked decrease has occurred. Over the Scandinavian Peninsula and northwestern Russia the pressure has increased, and over southern and eastern Russia has decreased.

Throughout Asia the pressure has fallen. Over the Japanese Isles a rise has occurred in the northeast portion, and a fall in the southwest portion.

Compared with the corresponding month of previous years, the mean atmospheric pressure in the United States was above the normal in all districts except the northern and middle plateau districts, Minnesota, Dakota, and California. The departures are greatest along the Atlantic coast, where they range from .05 to .10 inch. In Canada the mean pressure was everywhere above the average. Over Europe it was everywhere below the normal. In British India it was about normal.

The following table shows the mean pressure and mean temperature for April, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Apr. mean of 8 (1877-'84) years.	Apr., 1885.	Departure.	Apr. mean of 8 (1877-'84) years.	Apr., 1885.	Departure.
				°	°	°
Austro-Hungary	29.82	29.79	— 0.03	55.3	60.3	+ 5.0
British Isles	29.86	29.80	— 0.06	50.1	49.9	— 0.2
Denmark	29.94	29.88	— 0.06	45.6	48.1	+ 2.5
France	29.84	29.81	— 0.03	56.8	57.1	— 0.1
Germany	29.91	29.82	— 0.09	50.4	56.0	+ 5.6
India *	29.66	29.67	+ 0.01	90.2	90.0	— 0.2
Italy	29.84	29.79	— 0.05	61.2	60.4	— 0.8
Norway	29.97	29.93	— 0.04	44.0	43.1	— 0.9
Russia	29.96	29.93	— 0.03	46.5	48.5	+ 2.0
Spain	29.89	29.87	— 0.02	60.1	55.4	— 4.7
Sweden	29.99	29.94	— 0.05	39.8	41.6	+ 1.8

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Apr. mean of 8 (1877-'84) years.	Apr., 1885.	Departure.	Apr. mean of 8 (1877-'84) years.	Apr., 1885.	Departure.
				°	°	°
Astrakhan, Russia	29.96	29.95	— 0.01	55.5	55.8	+ 0.3
Archangel, Russia	30.00	29.97	— 0.03	33.3	36.0	+ 2.7
Angra, Azores						
Athens, Greece	29.87	29.85	— 0.02	65.9	68.7	+ 1.8
Beirut, Turkey in Asia	29.88	29.85	— 0.03	69.7	68.7	— 1.0
Barnaul, Siberia, Asia	30.12	30.13	+ 0.01	36.7	39.0	+ 2.3
Bridgetown, Barbadoes	29.95	29.95	normal.	82.7	82.8	+ 0.1
Cape Town, Cape of Good Hope*				71.4	67.7	— 3.7
Cagliari, Sardinia, Italy						
Ekaterinburg, Russia	30.03	30.03	normal.	40.2	37.9	— 2.3
Fort Napier, Natal, South Africa	29.88	29.85	— 0.03	75.2	75.0	— 0.2
Freetown, Sierra Leone	29.81	29.80	— 0.01	86.9	82.3	— 4.6
Funchal, Madeira Islands	30.08	30.16	+ 0.08	64.8	63.1	— 1.7
Gibraltar	29.97	29.97	normal.	65.2	58.6	— 6.6
Godthaab, Greenland	29.87			27.7		
Havana, Cuba, W. I	29.97	29.98	+ 0.01	75.0	72.3	— 2.7
Malta, Mediterranean Sea	29.85	29.80	— 0.05	63.5	62.9	— 0.6
Melbourne, New South Wales	30.11	30.20	+ 0.09	57.9	55.5	— 2.4
Mauritius, Indian Ocean	29.93	29.88	— 0.05	79.0	79.7	+ 0.7
Mexico, Mexico		30.10			51.8	
Nassau, Bahamas, W. I	30.02	30.02	normal.	76.2	76.2	normal.
Nikolaevsk on the Amoor, Asia		29.89		23.5	19.9	— 3.6
Paramaribo, D. Guiana, S. A	29.93	29.95	+ 0.02	79.9	78.4	— 1.5
Pekin, China	29.98			57.1		
Ponta Delgada, Azores	30.08	30.25	+ 0.17	63.0	64.6	+ 1.6
Sandwick Manse, Orkney Islands	29.94	29.80	— 0.14	45.0	44.8	— 0.2
San Juan de Puerto Rico, W. I	29.98	29.99	+ 0.01	77.1	76.1	— 1.0
Stykkisholm, Iceland	29.85	29.76	— 0.09	34.1	32.2	— 1.9
Tashkend, Toorkistan, Asia	29.95	29.83	— 0.12	66.2	65.1	— 1.1
Thorshavn, Färöe Islands	29.93	29.73	— 0.20	43.9	45.3	+ 1.4
Tiflis, Russia	29.88	29.89	+ 0.01	62.3	60.1	— 2.2
Tokei, Japan	30.02	30.07	+ 0.05	52.8	50.9	— 1.9
Yeniseisk, Siberia, Asia	30.09	30.13	+ 0.04	31.6	37.6	+ 6.0
York Factory, B. A	30.12			6.5		
Zi-Ka-Wei, China	30.00	30.02	+ 0.02	54.4	51.1	— 3.3

* Means for seven years only.

In the United States the mean temperature of the air differed but slightly from the normal. Over the Lake region and on the southeastern coast the temperature was slightly below the normal; in all other districts the temperatures were generally above the normal, the excess being greatest (from 3° to 5° Fahr.) in the northern Rocky Mountains and in southern California.

In Canada the mean temperature was below the average in Ontario and western Quebec and above the average in eastern Quebec and the Maritime Provinces.

In the British Isles it differed only slightly from the normal, being on the whole below. The mean, however, furnishes but a small indication of the character of the month, which was marked by very large ranges. Throughout central Europe the temperature was generally above the average for April, the excess being greatest in Germany. In Norway, the Iberian Peninsula, and in Italy, the temperature was below the average. In France the weather was very cold up to the 15th of the month, while the average of the last half of the month was much above the normal. In India the temperature was about normal.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes	82.8	28.2	Fort Saint Michael's, Alaska	23.7	— 4.6
Freetown, Sierra Leone	82.3	27.9	Behring Island, Behring Sea	26.3	— 3.2
Bellary, India	98.6	37.0	Nikolaevsk, on the Amoor (e)	19.9	— 6.7
Manila, Philippine Islands	80.8	27.1	Rockliffe, Canada	26.6	— 3.0
San Salvador, Africa	83.5	28.6	Stykkisholm, Iceland	32.2	0.1

In the United States the prevailing winds were southwesterly from the west Gulf states northeastward to the lower lake region; in all other districts they were variable. On the Atlantic Ocean north winds prevailed from the coast of the United States eastward to the sixtieth meridian, and northwest to southwest winds from that meridian to the European coast. South of N. 25° easterly winds prevailed. Over Europe the prevailing winds were mostly light and from various directions, in Austro-Hungary and southwestern Russia prevailing from the south.

The precipitation during March, 1885, was generally below the normal in the United States, except in the west Gulf states, Rio Grande Valley, Ohio Valley, upper Mississippi and Missouri valleys, middle and southern slopes, and middle plateau region. In Canada the precipitation was below the average in Ontario but above the average in the Maritime Provinces. Over the British Isles the rainfall, though somewhat below the average in the east and northeast, was slightly in excess at western stations; in France it was below the normal.

TRACKS OF AREAS OF LOW PRESSURE FOR APRIL, 1885.

Chart iii for April, 1885, shows the approximate paths of forty-two areas of low pressure that appeared in the northern hemisphere during the month.

This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data, viz.: Chart i for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

Nine areas of low pressure (i to ix, inclusive) are traced over the North American continent.

Four of these (numbers i, v, viii, and ix) originated on the eastern slope of the Rocky Mountains, near N. 40°; number i moved southeasterly to Arkansas and thence northeasterly, passing into the Atlantic Ocean over Nova Scotia; number viii moved northeastward to Lake Michigan and thence eastward to the Atlantic coast; numbers v and ix moved a little south of east.

One area of low pressure (number vii) appeared in Arkansas and took a course northeastward to the Lake region, passing over Nova Scotia and Newfoundland into the Atlantic. Number vi appeared in the extreme southwest and moved northeastward into British America; numbers ii and iv are traced in British America, the former being charted eastward to the Gulf of Saint Lawrence; number iii appeared near the western extremity of Lake Superior and moved across the lower lakes.

Ten areas of low pressure are traced on the Atlantic Ocean, of which two only, viz., numbers xi and xix, are continuations of storms that were first traced in the United States. The former passed into the ocean from Nova Scotia and the latter from Newfoundland; both of these are traced across the Atlantic. With the exception of number xvi, which had a circular path near the Bermudas, and number xii, whose track is southeastward from N. 50°, W. 20° to N. 41°, W. 10°, all these depressions had an easterly or northeasterly trend between the parallels of N. 49° and 55°. The courses of two low areas, viz., numbers x and xi, after reaching the eastern part of the ocean, were bent southeastward to the Iberian Peninsula, apparently taking the path of least resistance. The depressions charted as numbers x and xvii were the most severe; in these the barometer fell below 28.9 (734.0), and both were accompanied by heavy gales and very high sea. The distribution of Atlantic storms throughout the month was very uniform, consisting of a continuous series of depressions.

The storms which passed over the United States and the Atlantic Ocean are described in detail in the MONTHLY WEATHER REVIEW for April, 1885, under the headings "Areas of low barometer" and "North Atlantic storms," respectively.

Sixteen depressions (numbers xx to xxxv, inclusive) are shown over Europe and the Greenland, Mediterranean, and Red seas. These occupy all parts of Europe, predominating in the southern portion and over the Mediterranean Sea during the first twenty days of the month, and in the north and west of central Europe from the 20th to 30th. Two depressions (numbers xxv and xxix) are continuations of storms previously passing over the Atlantic Ocean; number xxv moved southeastward to N. 41°, E. 7°, in the Mediterranean Sea, and thence northeastward until it disappeared from observation over the White Sea; number xxix entered the continent from the northern coast of the Iberian Peninsula and traversed the Mediterranean Sea to the shore of Asia Minor, whence it passed eastward to E. 45°. During its passage the pressure fell below 29.40 (746.7). A course very nearly parallel to that of the preceding was taken by number xxii, but it is traced beyond the former to E. 60°, where the pressure on the 8th was 29.52 (749.8). Number xxx appeared on the 19th in the Greenland Sea and moved southeastward over the continent to N. 48°, E. 68°, where it is charted on the 24th. On the 25th it had apparently moved northeastward to about N. 55°, E. 85°, as indicated by the pressure of 29.33 (745.0) reported at Barnaul, Siberia. Numbers xxiii and xxvi are shown on the Red Sea; the former is charted from reports of vessels near the Isthmus of Suez, where the pressure was 29.20 (741.7) and strong gales prevailed. The existence of the latter is shown by the pressure, 29.70 (754.4), and northerly gales in N. 25°, W. 36°, reported by the s. s. "Monte Rosa." The courses of the remaining storms exhibit no specially noteworthy characteristics.

The paths of seven areas of low pressure are shown in Asia and over the Japanese Islands. Number xxxvi is shown in central Asia, where the pressure at Barnaul was 29.45 (748.0) on the 20th. The remaining six (xxxvii to xlii, inclusive) are traced over the Japanese Isles; numbers xxxix and xli extending to Behring Sea, and number xxxviii to Alaska; during the passage of the latter the pressure fell to 29.20 (741.7) at Behring Island on the 10th. Number xlii was attended by high gales in the Yellow Sea, the pressure on the 29th ranging from 29.50 (749.3) to 29.60 (751.8) over northern Niphon.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 36 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-

annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

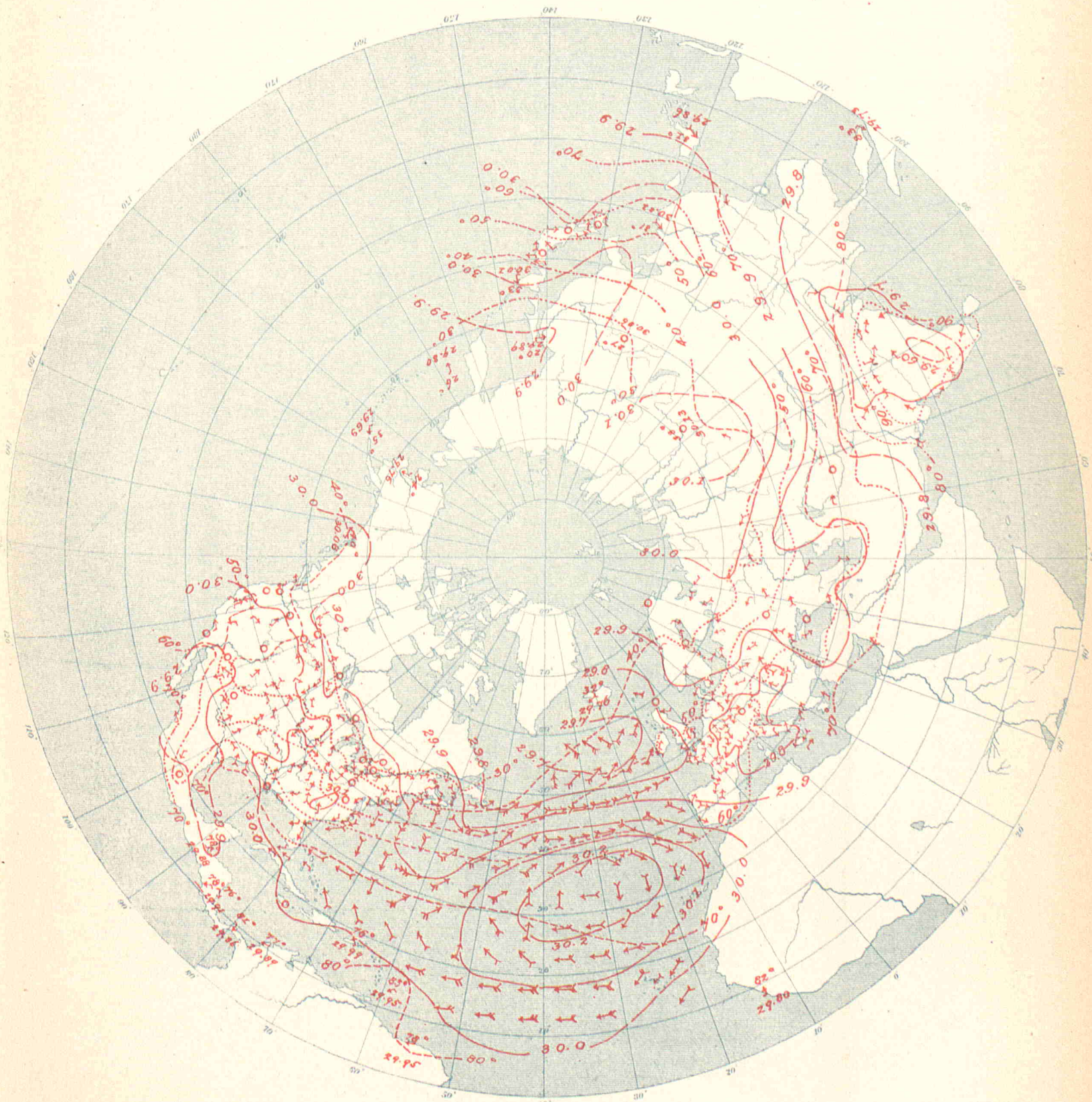
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

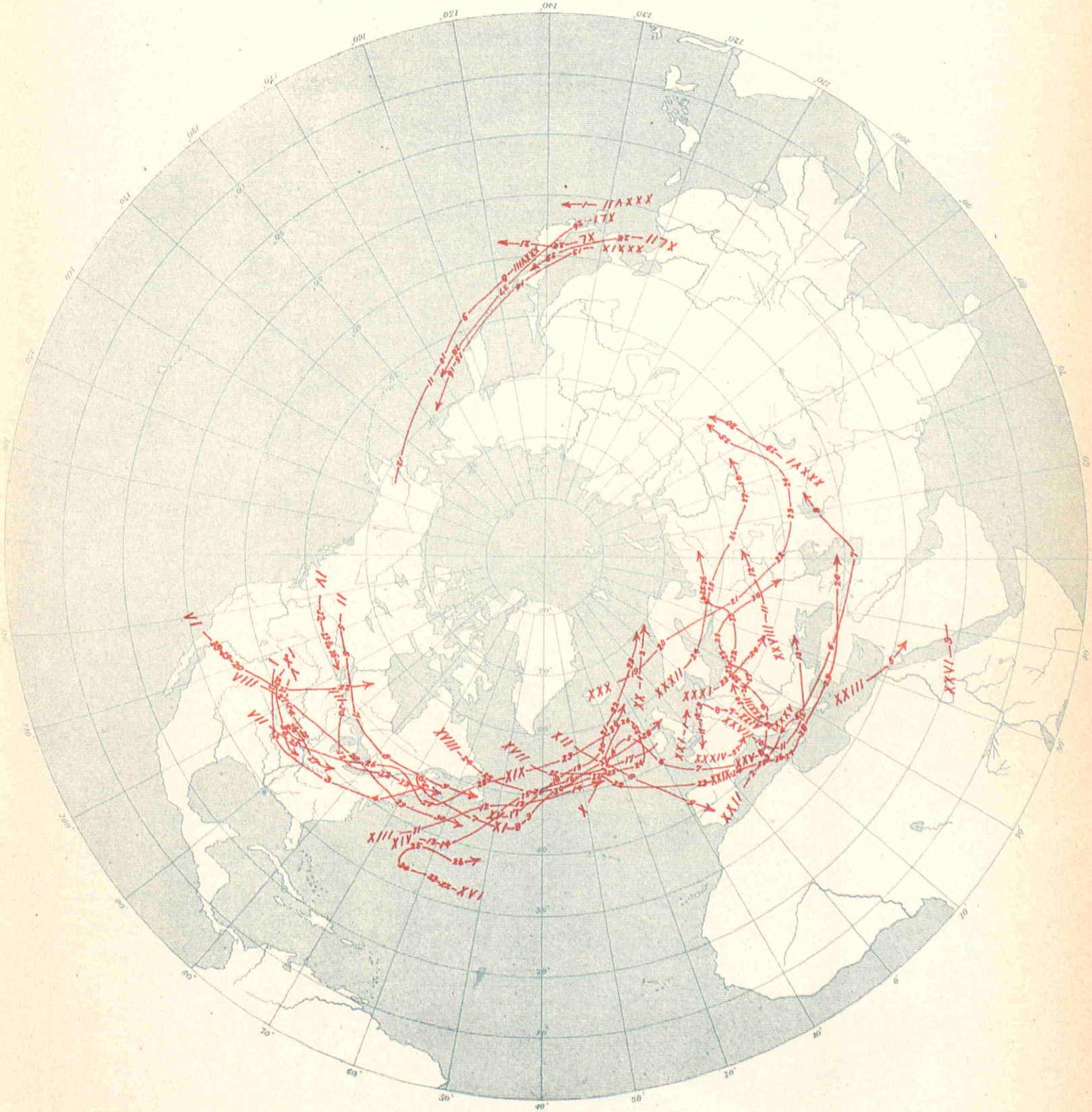
International Chart II. April, 1885. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.
Signal Office 14th.

International Chart III. April, 1885. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.

Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1885—Continued.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—Con.	
Belg. Belgenland	Capt. W. A. Beynon.
Br. Britannic	H. Perry.
Am. Caracas	W. M. Hopkins.
Br. Celtic	Benj. Gleadell.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Chicago	Fred. Watkins.
City of Montreal	Arthur Redford.
Am. City of Puebla	John Deakin.
Br. City of Richmond	A. W. Lewis.
Am. Colon	S. G. Porter.
Crescent City	Jas. L. Lockwood.
Ger. Elder	W. Willigerod.
Br. Elysia	James Brown.
Ger. Ems	W. Willigerod.
Br. Etruria	Theo. Cook.
Gallia	M. Murphy.
Ivanhoe	John Cameron.
Ger. Lessing	B. Voss.
Nevada	John Douglass.
Dtch. P. Caland	T. H. Bonjer.
Br. Republic	P. J. Irving.
Belg. Rhyland	J. C. Jamison.
Fr. St. Laurent	M. de Jousselin.
Am. San Marcos	A. B. Connor.
Saratoga	John McIntosh.
Dtch. Schiedam	J. de Harnecourt.
Br. Scythia	P. Wheaton.
Servia	W. McMickan.
Br. State of Nebraska	A. G. Braes.
Umbria	Theo. Cook.
Belg. Waesland	J. Ueberweg.
Westernland	W. G. Randle.
Br. Wisconsin	Edw. Bentley.
Wyoming	Chas. L. Rigby.
Dtch. Zaandam	E. M. Chevalier.
SAILING VESSELS.	
Am. bg. Abbie Clifford	David W. Storer.
schr. Abbie H. Gheen	W. W Gheen.
Br. bg. Achsah	A. M. Shaw.
Am. bkt. Addie Morrill	G. A. Andrews
Ger. sp. Agra	A. Hilgemann.
sp. A. J. Fuller	Theo. P. Colcord.
bk. Albemarle	W. H. Forbes.
schr. Annie R. Lewis	L. L. Lewis.
Nor. Ariel	F. Schrirngs.
Am. sp. Armenia	E. L. Carter.
Br. bk. Artisan	J. Dwyer.
Antonio Sala	F. H. Mitchell.
Am. bg. Atlanta	H. S. Aldrich.
Br. bk. Aureola	Geo. W. Turner.
Ger. sp. Baltimore	N Freese.
Am. bg. Belle of the Bay	R. O. Welton.
Ger. bk. Betty	S. Wohlmuth.
Br. Bonny Doon	J. S. Cole.
Am. bg. Caroline Gray	A. F. Pillsbury.
It. bk. Celestina	F. Carniglia
Am. bkt. Charles Stewart	Horace Atwood.
Ger. sp. Columbus	B. Sauerulich.
Corisande	Daniel Thoms.
Ger. sp. Cornelius	H. Windhorst.
Derby	B. Fortmann.
bk. Diamant	L. Haesloop.
sp. Dora	H. Myer
Br. Dynomene	W. Randall.
Br. sp. E. J. Spicer	Lewis Spicer.
Am. schr. Ettie H. Lister	Smith D. Mason.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Br. bk. Exile	Capt. Geo. J. Pearce.
Am. schr. Florence Rogers	Jas. S. F McLeod.
Br. bk. Francesco Gargullo	John McDonald.
Dan. bk. Galeon	H. H. Kalsboll.
Am. Gamaliel	C. S. Powell.
Br. brigt. George	W. H. Champlin.
Br. bk. George Davis	Thos. Macumber.
Ger. bk. George Washington	J. Probst, jr.
Am schr. George W. Lochner	J. C. Wiltbank.
Am schr. Governor Hall	John Cain, jr.
Nor. bk. Haabet	K. Olsen.
Ger. sp Hedwig	Th Minssen
Am. Henry Villard	F. B. Perkins.
Am. schr. Henry Waddington	W. H. Mogee.
Ger. bk. Ida	C. Fesenfeldt.
Ger. sp. Ida	W. Schneider.
Am. bk. Idaho	W. S. Richardson.
schr. James Slater	J. L. Tooker
Am. schr. Jennie R. Morse	A. D. Colcord.
bg. John Wesley	J. H. Hines.
Ger. bk. Leocadia	John Stopff.
Am Levanter	A. F Vesper.
bg. L. F. Munson	Jas. A. Smith.
Ger. bg. Lina	J. Witte
Am. L. & W. Armstrong	A. Alexander.
Br. bg. Lilian	H. F. Schive.
Am. sp. Magellan	John W. Strout.
schr. Maggie Abbott	D. C. McIntosh.
bg. Mary Fink	Daniel B. Parrah.
schr. Mary Nowell	Wm. M. Lank.
sp. Mary L Stone	Geo. L Josselyn.
Maud Snare	E. W. Snare.
bk. Mohican	Benj. F. Berry.
Nelson Bartlett	Samuel Watts.
Norema	A. B. Chase.
Ger. bk. Orpheus	G Myer.
sp. Otto	F. Fortmann.
Br. bk. Paladin	J. A Bettencourt.
Am. Payson Tucker	Chas. Brown.
Nor. Qvos	Gunder Olsen.
Am. sp. Ringleader	J. C. Entwisle
bg. Rising Sun	C. V. Decker.
Br. bk River Ganges	Thos. Natle.
Romanoff	Geo. W. Doty
Rosebud	John Collie.
It. Rosina	G Tomaselli
Am. Samuel B. Hale	A. S Haven.
Sarah Doe	B. S. Merryman.
bkt. Spotless	Chas E Myrick.
sp. St David	W. W Frost
schr. Stephen Bennett	William Douglas.
Br. sp. Stephen D. Horton	Johnson Spicer.
Br. bk. Strathome	A. W. Flemming.
Am. schr. Thomas Clyde	Alfred J. Biddle.
bk. Templar	R Roberts.
Teneriffe	N S Tracy
Tillie Baker	Jas. H. Carty.
Nor. bk. Tros	Severin Brager.
Am. schr. T. W. Dunn	R McFarland.
Br. bk. Tuck Sing	Geo N Ryder.
Ger. sp. Union	H Fokken.
Nor. bk. Vikingen	J. C Andersen, jr.
It. bk. Vincenzo Accame	A. V. Lavagna.
Am. schr. Viola Reppard	Lewis Ogier.
Walter L. Plummer	V. C. Plummer.
Ger. bk. Western Chief	Fr. Sander.
Br. Winifred	N. P. Dutton.
Am. Xenia	N E. Reynolds

Name of vessel.	Captain.
BRITISH NAVAL.	
H. M. S. Alexandra	Capt. Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Agamemnon	Long.
H. M. S. Boadicea	Church.
H. M. S. Cleopatra	Hippisley.
H. M. S. Champion	Powlett.
H. M. Dockyard, Bermuda	Grant.
H. M. S. Dreadnaught	Bedford.
H. M. S. Espeigle	Bridge.
H. M. S. Euryalus	Hastings, C. B.
H. M. S. Flying Fish	MacLear.
H. M. S. Heroine	Blackburne.
H. M. S. Lark	T. F. Pullen.
H. M. S. Monarch	Bedford.
H. M. S. Nelson	Lake.
H. M. S Osprey	Dowding.
H. M. S. Rambler	Hon. F.C.P. Vereker
H. M. S. Superb	A. F. Cleveland.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Turquoise	Woodward.
PORTUGUESE NAVAL.	
H. P. M. S. Tamega	J.d'Almeida d'Avila
H. P. M. S. Rainha do Portuga	G. Brito Capello.
SWEDISH NAVAL.	
H. S. M. S. Vanadis	Otto Lagerberg.
H. S. M. S. Balder	R. von Hedenberg.
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlanden	
Leeuwarden	
Prins Hendrick der Nederlanden	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	Lewis Clark.
U. S. S. Enterprise	A. S. Barker.
U. S. S. Galena	T. F. Kane.
U. S. S. Hartford	G. H. Perkins.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	Thos. Nelson.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsley.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	C. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Corp'l C. McGregor, A. H. C.
Chatham, School M. E	W. Skipper, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	Corp'l H. Keene, A. H. C.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Frére Eugene Marié.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Allnard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Théirot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Allnard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Lô, Normal School	M. Delaplanche, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Mühl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittel.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Agawa.
Hakodate	K. Ando.
Hiroshima	J. Okamoto.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Nemuro	A. Shibuya.
Niigata	T. Sato.
Nobiru	H. Yoshino and Nanita.
Numadzu	T. Ohgi
Osaka	H. Omura.
Sakai	H. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Vicente Fernandez.
Leon	M. Leal & Forres.
Mazatlan	C. Camina.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	D. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Buchmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jolin.
Bilbao, Met. Observatory	Angel de Uraldo.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MAY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JULY, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
City of Rome	R. D. Munro.
Columbia	Robt Thos. Garvie.
Devonia	Hugh Young.
Elysia	James Brown.
Ethiopia	J. Wilson.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Alvo	David Williams.
Span. Andes	A. de Amezaga.
Athos	Horatio Low.
BEAVER LINE.	
Br. s. s. Lake Nepigen	M. L. Tranmar.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. L. Weiss.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. T. Rogers.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Frank.
Europa	L. A. Kassal.
FURNESS LINE.	
Br. s. s. Stockholm City	K. Doyle.
Ripon City	J. Jenkins.
GENERAL TRANS-ATLANTIC S.S.Co.	
Fr. s. s. St. Laurent	M. de Jousselin.
GUION LINE.	
Br. s. s. Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Montreal	Arthur Redford.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Dalton	J. Russell.
Donati	H. W. James.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas Clark.

Name of vessel.	Captain.
LEYLAND LINE.	
Br. s. s. Venetian	Capt. W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Brooklyn	G. S. Dale.
Ontario	W. P. Couch.
Sarnia	J. Gibson.
Toronto	Jas. McAuley.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	J. Milligan.
Egypt	J. Sumner.
Greece	T. Foote.
Holland	Geo. Cochrane.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Dilliberto.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	R. Ringk.
Eider	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	O. Heimbruch.
Habsburg	Fr. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	R. Bussius.
Nurnberg	A. Jaeger.
Rhein	Th Jüngst.
Salier	C. Wiegand.
Strassburg	H. Heincke.
Werra	J. Barre.
Weser	H. Bruns.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Arabic	W. G. Pearne.
Oceanic	J. Metcalfe.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Geo. W. Elder	E. W. Holmes.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Australia	R. C. Ghost.
Am. City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	W. B. Seabury.
Granada	M. Connolly.
San Blas	T Chapman.
San Jose	A. D. Austin.
Zealandia	Henry Webber.

Name of vessel.	Captain.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	Capt. G. S Locke.
Orinoco	J S. Garvin.
RED CROSS LINE.	
Br. s. s. Portuense	F. K. Hews.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
Leerdam	P. Stierendregt.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. J. Vis.
Zaandam	E. M. Chevalier.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Gaudiana	C. W. Hanslip.
Minho	Walter Chapman.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Nebraska	A. G. Brace.
State of Nevada	G. Moodie.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Island	W. Skjoldt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Chicago	J. W. Jones.
Galileo	Richard Potter.
Marengo	J. H. Malet.
Otranto	F. Kerr.
Rosario	Lieut. Rogers, R.N.R.
WINSOR LINE.	
Am. s. s. Norman	H. W. Goggins.
Saxon	S. W. Snow.
MISCELLANEOUS.	
Ger. s. s. Brutus	J. A. Voege.
Br. s. s. Camden	S. R. Chandler.
Castleford	C. Gray.
Edith Godden	John H. Bennett.
Effective	H S. Mitchelson.
Kairos	Thos. Liddle.
Lord Lansdowne	C. H. Baskfill.
Menzaleh	J. B. McKie.
Monte Rosa	W. Thos. Irving.
Span. Valentia	M. Santamarina.
Br. Vindolana	Thos. Harrison.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	Capt. W. G. Shackford.
Br. Adriatic	H. Parsell
Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Alene	E. J. Selders.
Alvo	D. Williams.
Aurania	W. H. P. Hains.
Baltic	R. E. Bence.
Belg. Belgenland	W. A. Beynon.
Br. Britannic	H. Perry.
Carn Marth	Ch. off. W. C. Boynes.
Br. Celtic	Capt. Benj. Gleadell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MAY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JULY, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

MAY, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m	130	40	30.05	763.3	30.17	766.3	57.3	14.1	72	4	3	1	4	2	4	2	9	2	6364	10242	7	2.24	56.9
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.76	755.9	29.95	760.7	48.9	9.4	88	5	12	5	5	.....	.....	.....	1	3	.....	.....	5	0.91	23.1
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.03	762.7	30.11	764.8	53.6	12.0	81	14	3	5	2	3	1	.....	3	.....	.....	.....	4	1.22	31.0
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.36	745.7	29.89	759.2	65.5	18.6	52	2	2	1	13	1	6	5	1	.....	.....	.....	5	4.31	109.4
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.10	739.1	29.87	758.6	60.8	15.9	84	7	4	4	9	.....	2	2	3	.....	.....	.....	7	8.95	227.4
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	28.97	735.8	29.83	757.7	56.8	13.8	74	6	.....	.....	1	9	.....	.....	.....	15	.....	.....	7	3.28	83.3
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.65	727.7	29.88	759.0	60.1	15.6	71	.....	7	2	12	3	3	3	1	.....	.....	.....	6	3.74	94.9
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.45	722.7	29.84	758.0	66.7	19.3	50	1	9	7	.....	11	2	1	.....	.....	.....	.....	7	4.39	111.4
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.54	724.9	29.87	758.7	58.6	14.8	69	2	5	11	.....	.....	2	6	4	1	.....	.....	7	4.72	119.9
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.87	733.3	29.85	758.2	59.4	15.2	62	1	2	8	7	1	3	4	5	.....	.....	.....	6	6.37	161.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.80	756.9	29.91	759.8	66.7	19.3	64	.....	2	5	5	7	8	3	1	.....	.....	.....	4	4.09	104.0
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.36	745.7	29.82	757.5	66.2	19.0	60	10	3	6	3	7	1	.....	1	.....	.....	.....	5	4.91	124.6
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.38	751.4	29.84	758.0	66.7	19.3	67	2	2	7	6	7	1	1	4	.....	.....	.....	7	4.02	102.1
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.82	757.5	29.92	760.0	66.2	19.0	67	.....	2	4	14	.....	.....	.....	3	8	.....	.....	5	5.15	130.9
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.18	741.1	29.89	759.3	61.0	16.1	53	3	3	12	1	3	7	1	1	.....	.....	.....	4	6.93	176.0
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.93	760.3	30.11	764.7	74.5	23.6	78	2	16	1	1	1	.....	2	8	.....	.....	.....	6	1.90	48.2
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.62	752.3	29.75	755.6	47.2	8.4	69	2	6	5	.....	7	5	5	1	.....	10470	16850	7	3.69	93.7
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.77	756.1	51.5	10.8	60	3	2	14	1	5	3	3	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.21	741.9	29.76	755 9	49.3	9.6	67	1	3	6	6	6	4	2	3	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.34	745.2	29.75	755.6	51.2	10.7	61	2	1	10	8	2	2	1	5	.....	.....	.....	7	2.39	60.7
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.98	761.5	29.94	760.5	85.0	29.4	63	.....	.....	.....	.....	.....	.....	2	29	.....	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.65	753.1	29.84	757.9	54.1	12.3	65	.....	1	2	6	5	1	3	.....	13	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.72*h*	754.9*h*	29.93*h*	760.2*h*	h52.9	h11.6	72*h*	2	7	7	6	4	3	2	.....	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.65	702 3	29.86	758.4	74.2	23.4	40	5	3	4	.....	5	7	1	6	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.78	756.4	82.5	28.1	89	5	1	4	4	7	3	5	2	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.62	752.3	29.69	754.1	52.9	11.6	74	1	5	6	11	1	1	4	2	.....	.....	.....	6	2.00	50.8
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.03	762.7	30.06	763.5	66.9	19.4	90	.....	4	9	3	.....	.....	.....	15	.....	.....	.....	3	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.63	752 6	29.82	757.4	55.8	13.2	61	3	.....	8	8	6	2	2	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.57	751.1	29.88	758.9	53.3	11.8	77	2	3	15	8	1	1	1	.....	.....	.....	.....	6	2.22	56.4
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.77	756.1	29.83	757.7	53.1	11.7	59	3	4	8	7	6	.....	1	2	.....	7735	12448	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.51	749.5	29.78	756.4	52.8	11.6	62	.....	5	4	:5	2	.....	5	.....	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.87	758.7	29.92	760.0	68.0	20.0	84	5	2	9	3	4	3	4	1	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.97	761.2	29.97	761.2	80.7	27.1	79	1	2	.....	4	4	10	5	5	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.57	751.1	29.81	757.2	52.5	11.4	64	3	5	7	8	3	2	1	2	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.75	755 6	29.84	757.9	54.2	12.3	76	1	5	7	8	5	2	1	1	.....	.....	.....	9	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.65	753.1	29.79	756.7	46.2	7.9	83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.82	757.4	29.87	758.7	73.7	23.2	51	6	.....	1	9	4	.....	.....	10	1	.....	.....	4	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	29.70	754.4	29.76	755.9	51.2	10.7	78	2	3	3	14	.....	.....	6	2	1	.....	.....	7	1.70	43.2
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.79	756.7	50.1	10.1	66	1	2	9	7	5	1	1	5	.....	.....	.....	9	2.10	53.3
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.79	756 7	29.83	757.7	51.4	10.8	71	5	6	6	6	1	4	1	2	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.64	752.8	30.00	762.0	70.1	21.2	53	.....	10	1	6	4	7	2	1	.....	4537	7302	3	0	0
Canadian.																										
Bathurst *b*	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.98	761.4	30.03	762 7	46.1	7.8	.....	3	2	.....	5	.....	.....	1	2	16	.....	.....	5	1.43	36.3
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.95	760.7	30.00	762.0	44.8	7.1	81	4	2	4	6	6	1	2	4	4779	7691	6	2.51	63.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.93	760.2	30.00	762.0	44.4	6.9	75	2	4	3	10	1	1	3	7	.....	4023	6474	6	2.88	73.2
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.73	755.2	29.93	760.1	48.9	9.4	81	1	1	12	4	2	1	7	3	.....	.....	.....	5	1.08	27.4
Dalhousie *c*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.93	760.2	29.99	761.7	44.5	6.9	.....	.....	.....	18	.....	.....	.....	4	6	.....	.....	.....	4	0.68	17.3
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.93	760.2	29.95	760.7	44.4	6.9	80	1	2	10	7	1	1	2	5	2	.....	.....	7	1.50	38.1
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.09	738.9	29.94	760 5	42.1	5.6	85	5	3	2	4	1	3	6	8	1	9213	14827	6	1.94	49.3
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.96	761.0	30.03	762.7	46.5	8.1	69	1	9	3	2	5	3	2	6	.....	4644	7474	5	2.90	73.7
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	195	59	29.97	761.2	30.02	762.5	45.9	7.7	75	5	4	2	1	8	1	4	5	1	6980	11233	5	4.30	109.2
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.84	732.5	29.94	760.6	47.2	8.4	91	.....	6	1	.....	3	.....	3	2	16	.....	.....	5	3.50	88.9
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.50	759.4	30.03	762.7	47.8	8.8	77	4	5	7	2	2	3	7	1	.....	.....	.....	6	3.30	83.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.51	749.5	29.91	759.8	50.8	10.4	88	.....	.....	1	14	.....	.....	2	14	.....	.....	.....	6	1.07	27.2
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.62	752.3	29.95	760.7	47.9	8.8	75	1	1	5	7	10	.....	1	6	.....	4627	7446	6	2.56	65.0
LittleGlaceBay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.92	760.0	29.96	761.0	47.8	8.8	85	8	4	3	11	1	1	.....	3	.....	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.04	737.6	29.94	760.6	48.0	8.9	85	1	2	2	1	1	1	2	2	19	2317	3729	6	0.92	23.4
Medicine Hat *b*	N. 50 01	W.110 37	4.38 a.m.	2136	651	27.59	700.8	29.88	758.9	44.2	6.8	78	.....	4	3	3	5	1	1	11	5891	9480	6	0.13	3.3
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.06	712 7	29.92	760.0	39.6	4.2	87	4	5	2	3	1	.....	4	5	7	8895	14315	5	2.61	66.3
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.77	756.1	29.98	761.5	50.8	10.4	65	2	2	5	6	5	4	5	2	.....	.....	.....	4	1.66	42.2
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.72	754.8	29.96	761.0	49.2	9.6	81	1	6	2	8	3	1	4	6	.....	4776	7686	5	2.57	65.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.23	742.4	29.92	760 0	47.1	8.4	80	1	.....	3	.....	9	4	10	1	3	6283	10111	5	3.95	100.3
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.20	741.8	29.94	760.4	49.2	9.6	86	1	1	3	1	.....	1	5	.....	19	.....	.....	5	2.36	59.9
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.18	741.2	29.91	759.7	39.9	4.4	77	6	.....	1	1	.....	.....	.....	2	21	2806	4516	3	1.43	36.3
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.24	742.7	29.93	760.2	49.1	9.5	91	4	1	3	5	.....	.....	.....	4	14	4270	6872	5	1.36	39.6
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.28	743.7	29.93	760.2	48.2	9.0	84	2	4	7	2	1	2	10	2	1	.....	.....	6	2.55	64.8
Qu' Appelle	N. 50 44	W.103 42	5.05 a.m.	2115	645	27.65	702.3	29.95	760 7	41.3	5.2	72	3	5	1	5	3	5	1	2	6	.....	.....	4	0.56	14.2
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.62	752.3	29.97	761.2	47.7	8.7	78	.....	.....	5	8	1	.....	2	8	7	.....	.....	5	2.00	50.8
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.49	749.0	29.96	761.0	41.3	5.2	86	1	5	2	.....	.....	4	5	1	13	.....	.....	4	2.55	64.8
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.94	760.5	29.99	761.7	44.0	6.7	83	2	5	.....	1	5	2	2	5	9	.....	.....	2	2.78	70.6
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.86	758.6	30.01	762.2	46.0	7.8	78	3	5	2	3	9	2	4	3	.....	.....	.....	5	5.00	127.0
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.96	761.0	45.0	7.5	.....	2	4	3	8	1	4	.....	5	4	.....	.....	.....	6.06	154.0
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.20	741.7	29.91	759.7	46.7	8.2	81	1	3	3	5	5	1	.....	5	8	.....	.....	3	2.68	68.1
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28 66	728.1	29.95	760.6	50.2	10.1	83	2	3	1	7	4	5	2	4	3	3737	6014	6	2.69	68.3
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.92	760.0	29.98	761.5	46.3	7.9	74	7	2	4	6	6	2	1	1	2	7215	11611	4	2.42	61.5
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.36	750.8	29.96	761.0	48.0	8.9	74	4	.....	2	2	3	1	7	9	3	6602	10625	6	2.26	57.4
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.90	734.2	29.97	761.2	48.8	9.3	78	2	1	5	4	4	3	.....	9	3	.....	.....	6	1.80	45.7
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.94	760.5	30.04	763.0	47.4	8.6	84	1	7	2	2	5	4	4	4	2	.....	.....	5	2.98	75.7
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.70	754.4	29.89	759.2	45.1	7.3	87	2	2	4	5	3	7	.....	8	.....	.....	.....	4	6.34	161.0
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.05	763.3	30.05	763.3	62.6	17.0	96	.....	1	13	7	1	1	3	2	3	.....	.....	4	4.89	124.2
Cape Town *a*	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.02	762.5	.....	.....	62.0	16.7	67	.....	2	11	1	.....	3	.....	.....	13	.....	.....	5	3.90	99.1
Springbok *b*	S. 29 45	E. 17 43	1.11 p.m.	?	?	27.92	709.2	.....	.....	64.4	18.0	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.38	9.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.										Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	M ill.
Chinese.	° ′	° ′																									
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.75	755 6	29.81	757.2	77.2	25.1	88	.....	2	.....	.....	12	4	10	3	.....	.....	.....	7	4.86	123.4
Sub-Series.																											
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.87	758.8	29.85	758.3	62.8	17.1	87	5	2	.....	.....	2	9	7	6	.....	.....	.....	7	4.16	105.7
Danish.																											
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.75	755.6	29.83	757.6	52.0	11.1	66	2	2	3	2	13	4	5	.....	.....	.....	.....	7	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.73	755.2	29.78	756.5	52.2	11.2	70	.....	3	7	10	5	2	2	2	.....	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.95	760.7	30.04	763.1	38.8	3.8	78	.....	.....	1	.....	2	2	9	10	7	.....	.....	4	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.74	755.5	29.77	756.1	44.4	6.9	74	8	.....	1	.....	1	2	4	8	7	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.63	752.7	29.76	755.9	49.8	9.9	71	.....	4	5	10	5	1	2	3	1	.....	.....	6	.....	.....
French.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.37	746.0	30.02	762.5	60.6	15.9	73	.....	7	7	4	2	3	.....	.....	8	.....	.....	.....	1.84	46.6
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.39	746 4	29.90	759.5	57.0	13.9	70	3	2	3	9	11	.....	.....	3	.....	.....	.....	4	3.12	79.3
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.64	752.8	29.90	759.5	57.0	13.9	64	2	5	12	3	1	1	6	1	.....	.....	.....	6	2.31	58.7
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.87	758.8	29.95	760.8	68.5	20.3	51	8	6	8	1	6	.....	1	1	.....	.....	.....	.....	2.02	51.2
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.36	745.8	29.92	760.0	57.9	14.4	65	1	2	6	11	3	5	1	2	.....	.....	.....	5	4.00	101.6
Beauvais *a*	N. 49 26	E. 2 05	0.08 p.m.	246	75	.....	.....	.....	.....	57.6	14.2	63	1	.....	.....	7	5	3	7	7	.....	.....	.....	6	2.38	60.4
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.01	736 9	29.91	759.7	58.6	14.8	57	2	.....	6	2	20	.....	.....	1	.....	.....	.....	7	4.88	123.9
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.72	755.0	29.98	761.6	60.4	15.8	65	1	5	9	9	2	2	3	.....	.....	.....	.....	6	3.40	86.3
Bourges	N. 47 10	E. 2 26	0.10 p.m.	510	156	29.35	745.6	29.91	759.8	57.9	14.4	61	1	1	5	3	3	3	11	1	3	.....	.....	6	2.46	62.4
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.70	754.3	29.95	760.8	56.7	13.7	68	3	.....	11	13	.....	1	.....	2	1	.....	.....	6	1.82	46.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.79	756.6	29.87	758.7	58.1	14.5	67	3	3	5	13	6	.....	1	.....	.....	.....	.....	.....	2.25	57.2
Châlons sur Marne*	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.52	749.7	29.82	757.5	57.9	14.4	64	.....	1	2	8	16	2	1	1	.....	.....	.....	5	3.29	83.5
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.38	746.3	29.91	759.7	57.4	14.1	59	2	3	7	7	9	1	.....	2	.....	.....	.....	6	2.17	55.1
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.58	726.0	29.91	759.8	61.3	16.3	49	4	1	8	8	.....	3	2	5	.....	.....	.....	7	2.54	64.5
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.11	739.3	29.95	760.8	60.3	15.7	60	2	5	3	7	7	5	2	.....	.....	.....	.....	6	3.12	79.2
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.06	738.1	29.93	760.2	55.6	13.1	62	.....	.....	13	12	.....	2	.....	4	.....	.....	.....	6	4.70	119.4
Gap *a*	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.41	696.3	29.91	759.8	59.4	15.2	51	.....	1	1	5	2	2	4	1	14	.....	.....	5	4.34	110.1
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.83	732.2	29.93	760.1	65.3	18.5	49	.....	.....	.....	.....	2	19	10	.....	.....	.....	.....	4	0.92	23.5
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.23	742.5	30.02	762.4	60.6	15.9	64	3	9	1	2	3	.....	2	2	9	.....	.....	.....	3.98	101.2
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.34	719.9	29.92	759.9	54.9	12.7	69	2	7	4	10	3	3	1	.....	1	.....	.....	6	5.89	149.5
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.64	752.8	29.93	760.1	56.1	13.4	68	2	9	7	5	4	3	1	.....	.....	.....	.....	.....	2 28	57.8
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.45	747.9	30.00	762.1	64.4	18.0	58	.....	3	20	2	.....	1	1	4	.....	.....	.....	.....	4.06	103.1
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.82	757 5	29.94	760.4	56.8	13.8	65	2	.....	4	15	7	.....	.....	3	.....	.....	.....	6	3.03	77.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.90	734.0	29.94	760.5	60.8	16.0	58	3	4	2	1	7	8	3	3	.....	.....	.....	7	1.52	38.5
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.59	751.6	29.89	759.3	57.4	14.1	67	1	7	6	3	7	.....	4	3	.....	.....	.....	7	4.10	104.1
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.68	753.9	29.94	760.5	66.4	19.1	52	1	5	13	8	4	.....	.....	.....	.....	.....	.....	.....	1.00	25.4
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.83	630.6	29.67	753.6	50.9	10.5	56	2	2	3	9	.....	3	7	5	...	.....	.....	6	3.32	84.4
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.82	757.5	29.93	760.2	67.8	19.9	57	3	.....	.....	.....	...	13	11	4	.....	.....	.....	4	0.79	20.1
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.80	604.5	.....	.....	.....	.....	.....	2	11	5	4	6	3	.....	.....	.....	.....	.....	3	5.54	140.7
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.17	740.8	29.96	760.9	56.5	13.6	59	.....	.....	4	19	2	.....	3	3	.....	.....	.....	.....	3.74	94.9
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.80	756.9	29.96	761.0	58 6	14.8	60	3	3	12	7	3	.....	2	1	.....	.....	.....	9	0	0
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.88	759.0	.....	.....	66.7	19.3	87	.....	4	.....	.....	.....	.....	.....	3	23	.....	.....	1	1.26	32.0
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.87	758.7	29.98	761.5	66.2	19.0	52	4	7	1	.....	1	5	9	2	2	.....	.....	6	0.83	21.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.17	537.6	.....	.....	33.3	0.7	.....	.....	1	13	9	.....	.....	.....	8	.....	.....	.....	.....	3.32	84.4
Privas. ..... (mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.89	733.9	29.89	759.3	64.0	17.8	51	7	1	3	6	9	1	4	.....	.....	.....	.....	.....	1.24	31.6
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.06	636.4	.....	.....	39.2	4.0	85	1	1	13	14	.....	1	1	.....	.....	.....	.....	7	5.32	135.2
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.94	760.5	29.97	761.3	62.2	16.8	68	1	10	12	6	.....	.....	1	1	.....	.....	.....	4	12.56	319.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.66	753.4	29.94	760.4	61.5	16.4	63	1	4	8	12	.....	2	2	2	.....	.....	.....	7	3.70	94.1*
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.85	707.5	29.94	760.4	59.5	15.3	62	1	.....	1	1	10	14	2	1	1	.....	.....	6	2.83	71.8
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.83	757.7	29.89	759.2	57.6	14.2	71	1	1	15	4	5	1	1	3	.....	.....	.....	6	2.32	59.0
Saint Lô *a*	N. 49 06	W. 1 05	11.56 a.m.	135	41	29 68	753.8	29.89	759.1	56.8	13.8	74	1	2	15	6	2	1	3	.....	.....	.....	.....	5	1.49	37.8
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.74	755.3	29.91	759.6	58.1	14.5	54	1	5	4	10	8	.....	2	1	.....	.....	.....	7	1.52	38.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.32	744.6	30.04	762 9	64.0	17.8	63	1	11	4	2	3	8	.....	2	.....	.....	.....	6	1.50	38.1
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.72	755.0	29.93	760.2	60.8	16.0	58	1	1	6	11	6	3	3	.....	.....	.....	.....	6	3.46	87.9
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.43	747.5	29.89	759.1	56.5	13.6	55	4	16	5	4	.....	1	.....	1	.....	.....	.....	7	2.28	57.9
Sub-Series.																											
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.88	758.9	30.03	762.7	62.1	16.7	63	1	3	16	5	.....	1	2	3	.....	.....	.....	7	2.45	62.2
German.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.45	722.7	29.90	759.4	57.2	14.0	51	.....	4	9	12	.....	2	.....	3	1	.....	.....	6	2.85	72.3
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.01	736.9	29.85	758.3	60.1	15.6	83	5	7	15	3	.....	.....	.....	1	.....	.....	.....	6	1.20	30.4
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.70	754.3	29.88	758 9	59.0	15.0	57	3	9	4	7	3	2	2	1	.....	.....	.....	7	1.43	36.4
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.36	745.7	29.91	759.7	58.3	14.6	55	1	6	10	3	5	3	3	.....	.....	.....	.....	8	3.41	86.7
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.46	748.2	29.92	760.0	58.3	14.6	56	.....	1	3	21	.....	1	1	4	.....	.....	.....	8	4.96	126.1
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.11	739.4	29.84	758.0	55.9	13.3	58	2	6	.....	16	5	1	.....	1	.....	.....	.....	7	2.58	65.4
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.50	749.4	29.93	760.1	59.2	15.1	56	1	3	8	13	4	.....	1	1	.....	.....	.....	8	2.72	69.2
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.51	724.1	29.93	760.2	58.1	14.5	66	.....	1	5	20	3	.....	.....	2	.....	.....	.....	6	7.21	183.1
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.72	755.0	29.83	757.7	53.8	12.1	72	1	5	6	7	7	4	1	.....	.....	.....	.....	7	2.88	73.1
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.78	756.3	29.81	757.1	52.5	11.4	66	3	3	12	5	3	1	3	1	.....	.....	.....	7	3.02	76.7
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.43	747.5	29.88	758.9	58.8	14.9	65	.....	3	8	11	3	3	.....	3	.....	.....	.....	7	3.17	80.5
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.63	752.6	29.84	757.9	58.6	14.8	60	.....	3	8	10	4	3	2	1	.....	.....	.....	7	2.04	51.9
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.82	757.3	29.89	759.2	53.2	11.8	75	1	9	8	4	3	3	1	2	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.08	713.1	29.82	757.3	58.5	14.7	51	1	7	15	1	2	.....	2	1	2	.....	.....	6	6.48	164.7
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.81	757.2	29.87	758.7	52.7	11.5	67	8	1	4	4	2	3	5	4	.....	.....	.....	7	5.18	131.7
Neustadt *b*	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.34	745.1	29.87	758.7	57.7	14.3	78	1	2	10	8	4	.....	1	2	.....	.....	.....	9	3.05	77.4
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.01	736.9	29.91	759.7	57.9	14.4	57	2	8	8	7	.....	1	1	4	.....	.....	.....	7	4.15	105.3
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.79	756.6	29.84	758.0	53.1	11.7	70	2	5	8	6	3	2	2	1	.....	.....	.....	5	2.33	59.2
Greek.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.55	750.6	29.94	760.5	77.5	25.3	56	3	1	1	6	14	3	1	2	.....	.....	.....	3	0.27	6.9
Indian.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.68	753.9	29.68	753.9	86.0	30.0	66	.....	.....	13	18	.....	.....	.....	.....	.....	.....	.....	2	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.23	742.5	29.63	752.7	99.1	37.3	22	1	3	18	9	.....	.....	.....	.....	.....	.....	.....	3	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.77	756.0	29.74	755 4	85.5	29.7	71	.....	15	16	.....	.....	.....	.....	.....	.....	.....	.....	1	0.02	0.5
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.92	709.2	29.66	753.2	90.5	32.5	35	.....	17	11	2	.....	1	.....	.....	.....	.....	.....	5	3.16	80.3
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.26	692.3	29.67	753.7	82.8	28.2	56	1	1	17	9	1	.....	.....	2	.....	.....	.....	4	1.41	35.8
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.01	736.9	29.68	753.8	86.6	30.3	42	4	4	7	.....	1	.....	5	4	6	.....	.....	4	4.38	111.2
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.80	731.5	29.64	752.7	89.7	32.1	30	1	.....	19	2	.....	.....	5	.....	4	.....	.....	3	1.27	32.3
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.12	739.7	29.62	752.3	97.4	36.3	24	1	13	10	4	.....	.....	2	.....	1	.....	.....	2	2.34	59.4
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.64	727.6	29.59	751.5	97.4	36.3	27	2	2	5	5	3	2	2	1	9	.....	.....	5	2.10	53.3
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.36	720.3	29.61	752 1	93.4	34.1	27	3	6	3	2	2	4	.....	2	9	.....	.....	6	4.41	112.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.34	745.2	29.66	753.3	94.7	34.8	28	4	8	10	2	1	1	1	2	2	.....	.....	2	1.10	27.9
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.35	745.4	29.60	751.7	97.1	36.2	25	2	12	8	4	1	.....	.....	1	3	.....	.....	2	0.53	13.5
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.46	748.4	29.59	751.6	97.1	36.2	31	4	9	12	1	.....	5	.....	.....	.....	.....	.....	2	0.69	17.5
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.70	703 7	29.59	751.6	91.6	33.1	27	7	16	2	2	.....	3	1	.....	.....	.....	.....	4	1.51	38.4
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.64	752 8	29.66	753.4	88.8	31.6	59	.....	.....	1	2	15	3	1	.....	9	.....	.....	4	3.62	91.9
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.67	753.6	29.64	752 8	87.5	30.8	61	2	2	.....	5	14	4	2	1	1	.....	.....	4	4.84	122.9
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.58	751.4	29.65	753.2	82.5	28.1	73	2	1	7	7	1	.....	.....	2	11	.....	.....	4	12.23	310.6
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.68	754.0	29.72	754.8	82.3	27.9	79	1	.....	5	8	8	3	1	.....	5	.....	.....	5	5.65	143.5
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.44	747 9	29.73	755.2	78.2	25.7	81	1	1	.....	8	.....	2	.....	18	1	.....	.....	6	15.36	390.1
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.28	718.3	29.63	752.5	93.0	33.9	29	3	15	4	2	.....	1	2	4	.....	.....	.....	5	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.24	717.3	29.58	751.4	95.6	35.3	31	1	3	5	1	3	6	12	.....	.....	.....	.....	6	0.45	11.4
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.51	749 6	29.71	754.6	94.5	34.7	43	1	3	2	4	7	8	5	1	.....	.....	.....	6	0.46	11.7

*Thirteen days missing from barometers.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN.	o ′	o ′																								
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.44	747.7	29.84	757.9	65.8	18.8	58	2	1	3	3	3	4	5	9	1	.....	.....	6	5.74	145.7
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.39	746.4	29.89	759.3	66.6	19.2	48	2	3	7	4	4	7	1	3	.....	.....	.....	6	3.02	76.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.79	756.6	29.89	759.3	65.7	18.7	57	5	4	4	4	2	6	2	2	.....	.....	.....	6	2.19	55.6
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	28 97	735.8	29.86	758.4	65.5	18.6	50	2	.....	13	5	7	1	1	2	.....	.....	.....	6	1.44	36.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.72	754.9	29.91	759.7	63.9	17.7	64	1	1	1	10	4	13	1	1	.....	.....	.....	5	1.66	42.3
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.87	75·.7	29.92	759.9	64.0	17.8	67	.....	.....	.....	2	7	2	11	.....	9	...	.....	6	2.63	66.9
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.67	753.6	29.92	760 0	68.4	20.2	49	2	.....	.....	.....	.....	.....	10	14	4	1	.....	6	3.48	88.3
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.87	758.8	29.96	760.9	66.2	19.0	62	.....	.....	.....	1	.....	.....	6	6	15	3	.....	6	1.50	38.2
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.77	756.2	29.95	760.6	70.5	21.4	49	2	.....	.....	.....	.....	6	12	11	.....	.....	.....	5	0.74	18.9
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.69	754.2	29.94	760.5	70.7	21.5	47	11	1	5	1	5	2	5	1	.....	.....	.....	3	1.32	33.4
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.06	738 0	29.93	760 3	69.4	20.8	67	.....	.....	1	7	3	6	9	5	.....	.....	.....	4	1.63	42.6
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.74	755.3	30.00	762.0	68.9	20.5	51	.....	14	10	.....	.....	2	2	3	.....	.....	.....	5	0.20	5.0
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.89	759.3	29.94	760.4	69.6	20.9	62	6	7	11	3	2	.....	2	.....	.....	.....	.....	5	0.44	11.2
Sub-Series.																										
Naples	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.37	745.9	.....	.....	67.3	19.6	61	.....	1	13	8	4	.....	.....	2	.....	.....	.....	4	1.06	26.8
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.06	560 2	.....	.....	35.8	2.1	69	.....	1	10	12	1	2	.....	5	.....	.....	.....	6	6.13	155.6
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.08	560.9	.....	.....	37.9	3.3	68	.....	7	14	7	1	1	1	.....	.....	.....	.....	7	1.12	28.5
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	32	10	29.88	759.0	29.90	759.4	52.4	11.3	79	2	4	9	2	1	2	3	.....	8	.....	.....	7	6.53	165.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.85	758.1	29.87	758.7	49.2	9.5	81	3	8	9	2	6	.....	.....	1	2	h3854	h6201	5	5.24	133.2
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.86	758.4	29.88	759.9	46.9	8.3	84	4	3	9	1	3	.....	4	.....	7	7703	12397	6	4.89	124.4
Hiroshima	N. 34 23	E.132 27	8.50 p m.	13	4	29.91	759.7	29.89	759.2	62.0	16.7	76	12	1	4	.....	5	.....	1	2	6	3583	5767	5	9.91	251.6
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.93	760 3	29.91	759.7	64.8	18.2	81	.....	11	4	.....	5	3	5	2	1	.....	.....	5	12.10	307.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.77	756.2	29.92	760.0	58.9	15.0	75	5	6	1	.....	2	1	2	5	9	2339	3764	7	3.93	99.7
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.92	759.9	29.91	759.7	65.6	18.7	77	7	1	8	1	3	2	7	.....	2	5254	8455	7	9.09	230.8
Miyanki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.92	760.0	29.92	760 0	65.0	18.4	83	5	.....	6	1	6	3	9	1	.....	.....	.....	5	13.37	339.5
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.79	756.7	29.89	759.2	49.7	9.8	82	2	2	9	10	4	.....	1	1	2	3040	4893	5	1.92	48.8
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.72	755.0	29.90	759.4	62.7	17.1	82	4	.....	3	8	5	1	2	5	3	4562	7341	5	15.79	401.0
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.80	756.9	29.85	758.1	40.2	4.5	89	4	.....	6	.....	6	1	5	2	7	5686	9150	6	4.67	118.7
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.90	759.4	29.92	760.0	55.0	12.8	81	5	.....	.....	9	1	6	.....	1	9	5324	8528	6	2.76	70.0
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.90	759.3	29.89	759.2	52.1	11.2	80	12	2	3	1	3	6	3	.....	1	8854	14249	5	1.48	37.5
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.89	759.2	29.90	759 4	60.2	15.7	78	1	2	4	6	3	3	10	.....	2	.....	.....	5	13.37	144.9
Osaka	N. 34 41	E.135 30	9.02 p.m.	46	14	29.89	759.2	29.91	759.7	61.0	16.1	77	3	.....	8	3	3	.....	5	9	.....	8039	12938	7	5.71	144.9
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.92	759.9	29.91	759 7	58.4	14.7	79	3	2	5	1	3	.....	9	7	1	.....	.....	6	3.81	96.8
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.78	756.5	29.90	759.4	61.3	16.3	79	.....	1	4	2	....	1	5	3	15	.....	.....	5	5.58	141.6
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.86	758.5	29.92	760.0	58.3	14.6	81	9	3	2	1	13	.....	2	1	.....	.....	.....	5	8.91	226.4
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.87	758.8	29.90	759 4	63.1	17.3	73	6	2	.....	.....	6	.....	.....	.....	17	1988	3200	6	4.67	118.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.83	757.7	29.96	761.0	76.4	24.7	70	1	1	1	1	1	9	16	1	.....	.....	.....	5	7.40	188.0
MEXICAN.																										
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.29	617.0	29.86	758.4	60.9	16.1	72	4	19	3	1	2	.....	.....	2	.....	.....	.....	8	1.19	30.2
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.63	752.6	29.84	757.9	72.1	22.3	82	.....	4	.....	1	.....	.....	19	7	.....	.....	.....	2	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.91	759.8	29.93	760.3	55.6	13.1	.....	.....	3	8	12	3	1	2	1	1	.....	.....	.....	3.43	87.1
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.74	755.3	29.81	757.2	52.2	11.2	.....	7	5	8	2	4	3	.....	2	.....	.....	.....	.....	4.43	112.6
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.78	756.5	29.80	757.0	50.9	10.5	51	1	4	8	11	2	3	1	1	.....	.....	.....	.....	2.17	55.2
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.82	757.4	29.84	757.9	54.1	12.3	.....	2	2	14	5	2	4	1	1	.....	.....	.....	.....	2.98	75.6
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.78	756.3	29.84	758.0	56.7	13.7	.....	3	2	7	12	3	3	1	.....	.....	.....	.....	3	2.90	73.6
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.84	757.8	80.2	26.8	a86	.....	.....	.....	.....	.....	2	2	14	13	.....	.....	5	2.25	57.2
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.64	752.9	29.71	755.5	50.2	10.1	57	1	11	5	1	10	.....	2	1	.....	.....	.....	6	4.20	106.7
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.74	755.3	29.83	757.6	46.8	8.2	88	13	....	1	1	2	3	7	2	2	.....	.....	5	0.49	12.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.60	751.7	29.78	756.4	52.0	11.1	53	2	.....	2	5	10	2	6	3	1	.....	.....	7	2.61	66.2
Gjesvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.84	758.0	29.93	760.1	37.8	3.2	.....	5	2	2	2	.....	2	3	6	9	.....	.....	7	2.06	52.4
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.06	763.5	30.11	764.9	68.0	20.0	66	.....	.....	.....	17	1	5	5	2	1	.....	.....	6	0.09	2.4
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.76	755.8	30.07	763.8	64.9	18.3	58	7	5	5	8	4	.....	2	.....	.....	.....	.....	4	0.37	9.5
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.06	763.6	30.11	764.9	67.3	19.6	74	2	.....	6	12	2	1	2	4	2	.....	.....	4	4.13	105.0
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	33	10	29.99	761.8	29.96	761.0	72.7	22.6	67	4	.....	.....	.....	.....	.....	.....	8	17	.....	.....	3	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.04	712.3	29.78	756.4	83.7	28.7	64	.....	7	14	1	3	.....	5	1	.....	.....	.....	6	1.65	42.0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.31	642.8	30.02	762.4	49.6	9.8	69	.....	7	14	1	3	.....	5	1	.....	.....	.....	6	17.43	442.7
RUSSIAN																										
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.83	757.7	29.89	759.2	44.2	6.8	71	1	4	4	3	3	5	5	3	3	.....	.....	7	0.56	14.1
Astrakhan	N.46 21	E. 48 02	3.12 p.m.	69	21	30.04	763.0	29.97	761.2	77.7	25.4	31	2	1	3	3	10	7	2	2	1	.....	.....	3	0	0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30 00	762.0	29.94	760.5	71.4	21.9	65	8	.....	.....	.....	1	14	1	.....	1	6	.....	2	0.11	2.8
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.46	748 3	29.98	761.4	54.0	12.2	48	3	4	6	3	3	1	.....	7	4	.....	.....	7	2.71	68.8
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.60	751.7	29.87	758.7	54.3	12.4	63	2	2	8	7	4	4	3	1	.....	.....	.....	8	2.38	60.5
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.99	736.4	29.97	761.3	57.6	14.2	44	2	5	7	5	4	2	1	2	3	.....	.....	7	0.90	22.9
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.48	748.7	29.92	759.9	67.3	19.6	48	3	4	4	4	5	5	2	3	1	.....	.....	7	3.39	86.0
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.65	753.1	29.83	757.6	78.1	25.6	27	7	4	1	2	3	2	4	6	1	.....	.....	2	0.61	15.5
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.68	753.9	29.98	761.4	61.2	16.2	53	3	1	5	8	5	3	2	4	1	.....	.....	6	1.41	35.8
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.78	756.3	29.83	757.6	41.4	5.2	70	2	2	3	4	2	4	4	6	4	.....	.....	8	3.31	84.0
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.92	760.0	29.95	760.6	68.7	20.4	63	5	1	1	.....	3	2	2	4	13	.....	.....	6	0.45	11.5
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.28	743.8	29.90	759.5	61.9	16.6	60	3	3	3	4	6	7	2	3	.....	.....	.....	8	4.35	110.6
Kozlov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.42	747.2	29.93	760.2	64.2	17.9	56	4	4	3	5	5	3	2	4	1	.....	.....	5	2.54	64.4
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.39	746.6	29.98	761.6	64.2	17.9	50	1	4	7	4	1	5	6	3	.....	.....	.....	7	1.63	41.5
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.82	757.4	29.87	758.8	49.3	9.6	72	3	5	2	15	2	.....	2	2	.....	.....	.....	5	2.14	54.4
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.72	754.9	29.92	759.9	72.1	22.3	40	3	2	1	5	3	8	4	5	.....	.....	.....	7	0.78	19.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.44	747.7	29.93	760.2	61.5	16.4	47	7	2	3	4	8	5	1	1	.....	.....	.....	5	1.44	36.7
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.55	699.8	29.85	758.1	46.6	8.1	44	2	5	4	2	2	.....	1	.....	15	.....	.....	6	1.07	27.2
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.85	758.2	29.92	760.0	70.3	21.3	55	3	2	1	7	5	3	2	3	5	.....	.....	3	1.35	34.2
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	59	18	b29.66	b753.3	b29.76	b756.0	c34.3	c1.3	c76	a1	3	4	.....	.....	6	5	5	6	.....	.....	25	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.54	750.2	30.01	762.3	59.9	15.5	38	3	8	3	6	1	5	.....	4	1	.....	.....	6	1.74	44.2
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.53	750.0	29.85	758.1	85.1	29.5	15	9	2	4	1	1	3	1	9	1	.....	.....	5	0	0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.63	752 6	29.87	758.6	49.5	9.7	58	2	3	5	7	3	9	1	1	.....	.....	.....	7	1.41	35.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.38	746.1	29.88	759.0	61.2	16.2	55	2	4	3	2	5	9	3	.....	3	.....	.....	7	2.13	54.1
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.89	759.1	29.91	759.6	74.1	23.4	83	.....	9	2	15	2	.....	2	.....	1	.....	.....	7	2.49	63.3
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.82	757.4	29.84	758.0	52.5	11.4	56	1	8	5	4	8	2	1	2	.....	.....	.....	7	1.97	50.1
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.45	697.3	29.80	756.9	75.0	23.9	40	.....	2	3	.....	.....	.....	5	5	16	.....	.....	2	0	0
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.31	744.5	29.97	761.1	63.3	17.4	42	12	2	2	.....	.....	2	.....	1	3	9	.....	6	0.25	6.3
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.69	754.1	29.89	759.3	71.1	21.7	50	2	8	7	7	5	1	1	.....	.....	.....	.....	5	0.13	3.3
Starol Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.33	745.0	29.89	759.3	62.2	16.8	50	1	3	1	1	5	13	4	3	.....	.....	.....	8	2.92	74.3
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.21	716.5	29.80	756.8	80.1	26.7	32	3	8	5	1	3	.....	.....	2	8	.....	.....	3	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.52	724.5	29.86	758.5	79.3	26.3	30	.....	10	1	1	7	9	2	.....	1	.....	.....	5	0.98	24.9
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.41	746.9	29.84	758.0	59.4	15.2	58	1	6	4	5	8	1	2	2	2	.....	.....	7	2.65	67.3
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.70	754.4	30.02	762.5	47.7	8.7	54	4	5	2	2	6	2	2	2	6	.....	.....	7	1.92	48.9
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.31	744.5	29.86	758.4	60.6	15.9	50	2	4	7	4	5	4	3	2	.....	.....	.....	5	1.79	45.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1885.																				Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.											Average Cloudiness.		
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
SPANISH.	° ′	° ′																									
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.83	757.7	29.99	761.7	66.2	19.0	69	1	.....	2	4	11	4	7	2	.....	.....	.....	4	0.32	8.1
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.97	761.1	30.02	762.6	65.5	18.6	65	1	24	2	.....	.....	2	....	1	1	1450	2333	7	3.20	81.2
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.06	687.4	29.98	761.6	59.9	15.5	66	4	..	6	12	3	....	1	5	.....	7227	11630	5	0.94	23.9
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.80	706.0	29.95	760 7	68.2	20.1	45	1	2	4	13	3	1	1	2	4	8256	13286	5	0.39	9.9
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.10	739.1	30.01	762.2	60.4	15.8	71	3	1	3	15	.....	.....	.....	9	.....	6901	11105	7	6.74	171.1
Sub-Series.																											
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.89	759.1	29.90	759.4	76.2	24.6	84	.....	.....	.....	.....	.....	6	6	19	.....	.....	.....	3	5.48	139.2
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.86	758.4	29.86	758 4	83.7	28.7	70	.....	.....	2	10	....	13	6	.....		6336	11735	1	0.01	0.2
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.98	761.4	30.04	763.0	70.7	21.5	63	.....	6	11	4	1	1	7	.....	1	.....	.....	1	0.02	0.5
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.96	760 9	29.99	761.7	78.4	25.8	79	.....	.....	.....	1	6	15	3	.....	6	.....	.....	3	1.98	50.2
SWEDISH.																											
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.79	756.6	29.93	760.2	41.0	5.0	65	10	1	1	5	7	1	.....	6	.....	.....	.....	7	2.24	56.8
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.75	755.7	29.90	759.5	43.9	6.6	69	3	1	.....	7	3	2	8	7	.....	.....	.....	7	2.51	63.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.73	755.2	29.88	758.9	45.0	7.2	69	3	.....	1	1	3	2	5	9	7	.....	.....	6	3.02	76.7
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.61	752.0	29.86	758.4	50.5	10.3	56	3	1	4	9	4	2	.....	3	5	.....	.....	5	2.04	51.8
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.73	755.1	29.85	758.2	49.5	9.7	64	3	1	6	10	1	1	5	4	.....	.....	.....	4	1.90	48 2
Sub-Series.																											
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.67	753.6	29.80	756.8	50.7	10.4	60	3	4	.....	8	7	1	3	5	.....	.....	.....	7	1.57	39.8
SWISS.																											
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.54	725.0	29.96	761.0	57.7	14.3	56	13	2	4	2	10	.....	.....	.....	.....	.....	.....	4	3.16	80.2
TURKISH.																											
Constantinople	N. 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.91	759.8	70.7	21.5	53	8	2	.....	7	6	2	.....	6	.....	.....	.....	5	0.69	17.5
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.08?	764.07	75.7	24.3	.....	.....	12	2	16	.....	.....	.....	1	.....	.....	.....	4	1.14	29.0
Sub-Series.																											
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.87	758.6	77.4	25.2	65	3	5	2	12	1	2	1	5	.....	.....	.....	2	0.05	1.3
UNITED STATES.																											
New Engl'd states.																											
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.94	760.5	30.01	762.2	45.8	7.7	77	4	5	2	1	7	1	1	7	3	5242	8436	4	4.79	121.7
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.97	761.2	30.01	762.2	51.2	10.7	74	5	3	5	2	4	1	1	3	7	4675	7524	5	1.91	48.5
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.77	603 7	29.95	760.7	33.8	1.0	80	5	11	2	3	4	2	1	2	1	18040	29032	3	2 29	58.2
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.88	758 9	30.01	762.2	50.5	10.3	73	5	2	8	4	.....	1	8	3	.....	7811	12570	5	4.26	108.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.97	761.2	29.99	761.7	49.8	9.9	87	1	4	2	.....	.....	2	1	11	10	6957	11196	6	4.14	105.2
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.97	761.2	30.01	762.2	53.8	12.1	72	4	2	2	1	.....	3	6	8	5	5702	9176	5	5.02	127.5
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.90	759.4	30.00	762.0	52.3	11.3	74	5	2	2	1	1	1	4	11	4	5236	8426	5	2.61	66.3
Mid. Atlan. states.																											
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.94	760.5	30.02	762.5	52.2	11.2	68	7	.....	.....	10	5	.....	1	1	7	4536	7300	6	1.92	48.5
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.83	757.7	29.99	761.7	52.8	11.6	78	3	4	2	1	.....	2	5	14	.....	7342	11816	5	2.22	56.4
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.87	758.7	29.98	761.5	54.6	12 6	79	5	....	3	1	.....	1	2	15	4	6452	10383	6	3.76	95.5
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.98	761.5	30.00	762.0	51.7	10.9	82	3	5	3	.....	.....	2	14	4	.....	9975	16053	6	2.67	67.8
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.95	760.7	29.95	760.7	53.3	11.8	93	4	1	5	2	3	.....	3	13	.....	7039	11328	6	3.61	91.7
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	29.96	761.0	29.97	761.2	53.4	11.9	87	4	2	3	1	2	3	6	9	1	9046	14558	5	1.47	37.3
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	29.93	760.2	29.94	760.5	55.5	13.1	85	3	4	1	2	3	6	9	3	.....	9165	14749	5	5.20	132.1
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.94	760.5	29.97	761.2	59.3	15.2	72	6	4	3	.....	....	.....	7	11	.....	3917	6304	7	4.50	114.3
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.88	758.9	29.98	761.5	57.8	14.3	78	3	7	.....	3	3	.....	7	7	1	4082	6569	6	2.85	72.4
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.95	760 7	29.94	760 5	57.9	14.4	87	7	3	1	1	4	3	4	8	.....	6801	10945	8	7.22	183.4
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.95	760.7	29.95	760 7	59.5	15.3	86	2	4	2	4	1	4	2	10	2	8632	13892	5	4.93	125.2
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.29	744.0	29.95	760 7	58.2	14.6	81	3	4	3	....	2	1	3	6	9	2441	3928	6	5.36	136.1
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.92	760.0	29.93	760 2	62.0	16.7	86	5	3	2	5	3	1	4	8	.....	4355	7008	7	6.16	156.5
S. Atlantic states.																											
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	29.96	761.0	29.95	760.7	61.7	16.5	90	10	1	4	6	3	1	4	2	.....	8667	13948	7	6.76	171.7
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.95	760.7	29.94	760.5	65.3	18.5	89	5	1	8	5	2	2	2	6	.....	7381	11878	5	7.04	178.8
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	29.96	761.0	29.94	760.5	65.5	18.6	90	8	3	1	10	2	3	2	2	.....	9272	14922	5	7.86	199.6
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.94	760.5	29.95	760.7	66.4	19.1	86	8	.....	7	6	4	.....	2	4	.....	7428	11954	5	6.10	154.9
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	29.92	760.0	29.95	760.7	66.7	19.3	84	7	3	5	8	1	1	1	5	.....	4717	7591	6	8.58	217.9
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.14	740.1	29.95	760.7	62.2	16.8	75	5	3	3	7	2	2	3	5	1	3509	5647	6	6.47	164.3
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.93	760.2	29.95	760 7	68.8	20.4	82	4	3	3	12	1	.....	1	4	3	5151	8290	4	2.20	55.9
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.83	757.7	29.98	761.5	64.2	17.9	83	1	4	6	2	6	4	1	6	1	2589	4166	5	5.86	148.8
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.90	759.4	29.96	761 0	69.2	20.7	75	3	8	3	7	7	1	1	.....	.....	5295	8526	4	3.98	101.1
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.95	760.7	29.96	761.0	70.6	21.4	83	.....	2	2	6	9	5	.....	4	3	4693	7552	5	7.74	196.6
Florida penin'la.																											
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	29.95	760 7	29.93	760 2	71.7	22.1	82	6	2	4	.....	8	5	3	3	.....	6558	10554	5	3.48	88.4
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.97	761.2	29.94	760.5	79.4	26.3	79	4	3	.....	2	6	6	5	5	.....	6645	10694	5	2.48	63.0
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.95	760.7	29.98	761.5	71.2	21.8	86	5	2	1	4	4	6	1	2	6	3921	6310	4	4.99	126.7
East Gulf states.																											
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.83	732.3	29.97	761.2	60.9	16.1	79	2	9	4	5	2	2	4	3	.....	6288	10119	5	6.12	155.4
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.94	760.5	29.93	760.2	68.7	20.4	81	6	3	2	2	5	3	3	4	5928	9540	5	1.42	36.1
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.95	760 7	29.95	760.7	66.5	19.2	86	5	6	1	.....	3	1	3	1	11	4902	7889	6	3.27	83.1
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.77	756.1	29.97	761.2	64.3	17.9	82	2	9	1	5	4	4	5	1	.....	3543	5702	6	8.92	226.6
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.70	754.4	29.93	760.2	65.1	18.4	73	.....	.....	.....	.....	2	2	9	8	3	7	.....	.....	4	4.75	120.6
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.91	759.7	29.93	760.2	70.1	21.2	82	4	1	2	1	2	4	7	6	4	4538	7303	6	5.77	146.6
West Gulf states																											
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.73	755.1	29.93	760.2	63.6	17.6	81	4	4	3	2	5	5	6	2	.....	4035	6494	5	3.66	93.0
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.47	748.5	29.93	760.2	58.1	14.5	91	2	.....	3	2	.....	1	9	4	10	2828	4551	5	2.59	65.8
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.63	752.6	29.90	759.4	62.0	16.7	84	3	5	2	6	1	4	3	1	6	3153	5074	6	3.26	82.8
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.90	759.4	29.90	759.4	73.1	22.8	84	4	1	3	2	6	7	2	6	.....	7787	12532	6	6.41	162.8
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.89	759.2	29.88	758.9	72.2	22.3	88	5	.....	.....	.....	5	6	5	9	1	9934	15987	5	5.27	133.9
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.41	747.0	29.93	760 2	62.8	17.1	89	8	5	1	1	3	4	2	6	1	5581	8982	6	6.08	154.4
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.11	739.4	29.87	758.7	65.1	18.4	91	7	2	.....	1	4	4	2	11	.....	5532	8903	6	7.92	201.2
Rio Grande valley.																											
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.83	757.7	29.84	757.9	72.1	22.3	96	5	....	1	1	3	4	7	4	6	5526	8893	7	7.17	182.1
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.69	754.1	29.84	757.9	72.6	22.6	92	4	1	.....	.....	.....	16	3	4	3	5067	8154	6	10.28	261.1
Ohio val. & Tenn.																											
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.18	741.2	29.97	761.2	59.2	15.1	87	2	6	4	8	2	2	.....	4	3	3794	6106	5	5.12	130.0
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	28.98	736.1	29.97	761.2	57.0	13.9	84	7	2	3	7	2	.....	.....	6	4	3694	5945	4	7.19	182.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.64	752.8	29.94	760 5	62.6	17.0	78	1	3	4	5	3	7	3	4	1	3544	5705	5	3.05	77.5
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.40	746.7	29.95	760.7	59.1	15.1	85	1	1	4	8	.....	8	5	5	.....	....	4224	6798	5	4.36	110.7
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.38	746 2	29.94	760.5	59.2	15.1	79	6	4	4	5	5	3	1	3	.....	5339	8592	5	4.20	106.7
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.02	737.1	29.94	760.5	54.4	12.4	80	4	3	1	7	4	3	6	3	.....	5253	8454	5	3.37	85.6
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.14	740.1	29.92	760.0	54.0	12.2	79	3	5	2	6	4	3	4	3	1	4101	6600	5	3.66	93.0
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.29	744.0	29.93	760.2	54.8	12.7	78	1	3	3	5	1	8	2	4	4	4414	7102	4	2.07	52.6
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.10	739.1	29.94	760.5	54.9	12.7	85	3	6	2	4	5	5	2	4	.....	5131	8257	6	5.83	148.1
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.14	740.1	29.94	760.5	55.9	13.3	73	1	5	4	1	4	1	5	4	6	4071	6551	6	3.26	82.8
Lower lake region.																											
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.29	744.0	29.94	760.5	51.1	10.6	82	1	.....	6	5	6	5	3	1	4	6937	11164	6	2.02	51.3
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.21	741.9	29.94	760.5	50.7	10.4	84	.....	1	3	9	6	4	2	5	1	6216	10003	5	3.80	96.5
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.60	751.8	29.96	761 0	49.8	9.9	75	3	2	4	1	5	11	1	3	1	6795	10935	6	3.37	85.6
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.21	741.9	29.92	760.0	54.3	12.4	77	2	2	4	5	12	1	.....	5	.....	6827	10987	5	4.90	124.5
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.27	743.4	29.93	760.2	53.3	11.8	75	1	2	4	12	1	3	5	3	.....	8398	13515	6	4.38	110.5
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.22	742 2	29.94	760.5	52.4	11.3	82	4	1	5	4	4	8	1	4	.....	6455	10393	5	3.88	98.6
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.25	742.9	29.93	760.2	53.1	11.7	78	2	2	7	8	2	.....	2	5	3	6221	10011	7	5.11	129.8
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.24	742.7	29.93	760.2	52.1	11.2	77	4	3	3	5	8	.....	.....	6	2	6723	10819	4	3.65	92.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for May, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
Upper lake region.	° ′	° ′																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	185	29.25	742 9	29.91	759.7	44.4	6.9	83	4	1	9	1	5	5	5	.....	1	6618	10650	4	2.18	55.4
Escanaba.*a*	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.23	742 4	29.89	759 2	42.8	6.0	72	14	4	1	2	10	.....	.....	.....	.....	7023	11302	6	3.61	91.7
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.25	742.9	29.91	759.7	49.7	9.8	75	3	3	1	2	7	.....	3	7	4	7534	12124	5	1.17	29.7
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.26	743.2	29.92	760.0	42.3	5.7	79	3	3	5	2	2	1	10	3	2	5710	9189	5	2.53	64.3
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.18	741.2	29.91	759.7	43.7	6.5	75	2	7	7	4	1	2	2	1	5	5349	8608	3	3.19	81.0
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.25	742.9	29.92	760.0	45.8	7.7	84	4	4	.....	4	7	.....	1	9	2	6531	10510	4	3.80	96.5
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.21	741.9	29.90	759.4	49.6	9.8	76	6	4	6	2	3	4	1	4	1	5406	8700	5	3.17	80.5
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.18	741.2	29.92	760.0	46.4	8.0	76	9	2	5	6	2	1	1	5	.....	8999	14482	5	0.41	10.4
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.20	741.7	29.94	760.5	43.2	6.2	70	2	6	2	2	1	.....	6	6	6	5158	8301	5	1.53	38.9
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.06	738.1	29.90	759 4	49.7	9.8	83	5	4	3	2	7	2	3	.....	5	5606	9022	6	2.12	53.8
La Crosse.*a*	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.16	740.7	29.92	760.0	52.0	11.1	68	4	6	3	2	10	1	2	1	1	6003	9661	4	2.52	64.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.29	744 0	29.93	760.2	51.3	10.7	77	3	7	5	3	1	2	6	4	.....	6116	9843	4	1.94	49.3
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.05	737.9	29.93	760.2	51.1	10.6	82	4	4	2	.....	3	3	3	.....	12	3769	6066	4	1.70	43.2
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.23	742.4	29.92	760.0	49.7	9.8	76	3	5	3	.....	4	2	4	5	5	4205	6767	4	2.62	66.5
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.28	743.7	29.92	760.0	54.1	12.3	79	1	8	5	2	3	3	5	3	1	6201	9979	4	2.59	65.8
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.60	751.8	29.95	760 7	60.7	15.9	79	5	3	3	5	5	2	2	6	.....	5157	8299	4	3.21	81.5
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.27	743.4	29.92	760.0	55.7	13.2	71	1	6	4	1	5	6	3	5	1	6375	10259	4	2.78	70.6
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.36	745.7	29.94	760.5	59.1	15.1	77	.....	6	4	1	5	6	3	5	1	7628	12276	5	2.80	71.1
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.09	738 9	29.95	760.7	54.8	12.7	82	1	5	.....	.....	3	2	3	.....	17	3158	5072	4	5.89	149.6
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.80	731.5	29.94	760.5	53.0	11.7	82	5	6	3	2	5	5	1	1	3	6645	10694	4	4.43	112.5
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.37	720.6	29.93	760.2	47.0	8.3	82	9	5	2	1	1	6	4	.....	3	7435	11965	5	2.40	61.0
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.56	725 4	29.91	759.7	46.0	7.8	81	5	9	.....	1	5	6	3	2	.....	8031	12924	4	5.20	132.1
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.64	727.4	29.91	759.7	49.1	9.5	83	4	2	5	4	3	1	3	2	7	6209	11044	5	4.01	101.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.90	734.0	29.95	760.7	55.1	12.8	84	6	4	.....	3	6	7	3	2	.....	6250	10068	6	5.02	127.5
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.92	734.6	29.90	759.4	45.0	7.2	84	7	5	3	4	5	4	.....	2	1	8440	13583	6	2.27	57.7
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.07	738.4	29.94	760.5	43.7	6.5	87	5	7	4	1	6	4	2	1	1	8177	13149	5	1.59	40.4
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.12	714.2	29.91	759.7	45.3	7.4	87	11	5	.....	.....	2	5	5	3	.....	6522	10496	5	0.92	23.4
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.90	708.6	29.91	759.7	41.3	5.2	80	7	6	1	4	2	.....	5	5	1	7150	11507	6	1.02	25.9
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.31	719.1	29.91	759.7	44.5	6.9	73	4	4	4	4	4	6	1	2	2	9679	15577	5	1.70	43.2
Northern slope.																												
Fort Assinaboined	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.11	688.6	29.97	761.2	43.7	6.5	74	.....	7	3	7	.....	4	4	.....	2	6752	10866	4	0.43	10.9
Fort Benton.*a*	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.18	690.4	29.98	761.5	48.3	9.1	67	.....	2	1	12	.....	2	2	2	9	5117	8235	4	0.49	12.2
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.82	681.2	29.92	760.0	43.0	6.1	68	.....	2	8	3	3	4	6	5	.....	5530	8909	6	0.47	11.9
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.55	649.0	29.96	761.5	43.1	6.2	58	12	4	4	.....	2	3	2	4	.....	7266	11693	4	0.43	10.9
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26 31	668 3	29.92	760.0	46.4	8.0	59	1	1	23	2	.....	.....	1	2	.....	4658	7496	2	0.82	20.8
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.10	655.3	29.92	760.0	42.6	5.9	68	.....	8	4	17	.....	.....	2	.....	.....	4930	7934	4	0.85	21.6
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.79	605.9	29.92	760.0	43.0	6.1	85	10	3	8	1	5	1	2	.....	1	5810	9350	3	0.77	19.6
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.35	643.9	29.87	758.7	42.7	5.9	80	1	2	3	8	4	.....	.....	5	8	2822	4542	3	3.22	81.8
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.98	609.1	29.86	758.4	38.2	3.4	85	3	13	6	4	1	2	.....	2	.....	6899	11103	4	1.33	33.8
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.05	687.1	29.90	759 4	49.1	9.5	84	1	6	5	1	3	5	3	1	6	6909	11120	5	3.31	84.1
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.76	451.1	29.81	757.2	17.6	—8.0	86	4	7	8	8	1	.....	.....	2	1	13797	22204	3	6.12	155.4
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28 48	723 4	29.90	759.4	50.3	10.2	92	4	10	2	2	4	5	3	1	.....	6131	9867	4	.....	.....
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.73	628.1	29.88	758.9	43.9	6.6	77	6	3	1	6	12	2	.....	.....	1	5007	8058	6	2.13	54.1
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.02	660.9	29.85	758.2	46.5	8.1	85	.....	2	12	3	1	3	5	4	1	6823	10980	5	0.49	12.4
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.37	695.2	29.88	758.9	51.1	10.6	86	2	4	5	4	4	5	2	5	.....	8799	14130	4	4.07	103.4
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.20	690.9	29.88	758.9	51.9	11.1	91	4	6	3	2	3	3	2	3	5	8095	13993	5	7.23	183.6
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.71	729.2	29.90	759.4	57.9	14.4	91	11	2	1	.....	5	3	1	3	5	6728	10828	6	5.54	140.7
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.04	712.2	29.91	759.7	59.6	15.3	92	2	4	1	2	3	3	5	4	7	6541	10526	6	2.80	71.1
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	26.93	684.0	29.91	759.7	58.7	14.8	86	1	.....	1	4	7	14	1	2	1	7054	12318	2	2.44	62.0
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.13	638.3	29.81	757.2	54.5	12.5	72	2	1	5	10	2	.....	.....	4	7	5012	8066	3	1.97	50.0
Southern plateau.																												
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.21	665.7	.....	.....	57.3	14.1	56	1	5	.....	.....	.....	4	8	5	8	4121	6632	1	0	0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.25	590.5	29.87	758.7	44.1	6.7	66	2	.....	.....	3	1	9	8	8	.....	5048	8124	4	1.31	33.3
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.15	689.6	29.79	756.7	53.0	11.7	59	.....	1	.....	1	4	2	4	.....	19	.....	.....	2	0.09	2.3
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	24.99	634.7	29.79	756.7	45.0	7.2	57	.....	.....	1	2	1	3	10	13	1	5081	8177	2	1.12	28.4
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.17	639.3	29.75	755.6	55.2	12.9	44	9	6	1	1	.....	3	3	8	.....	5245	8441	1	0.25	6.3
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1642	24.67	626.6	29.79	756 7	45.6	7.6	70	.....	.....	.....	.....	6	2	.....	.....	23	5169	8319	1	0.37	9.4
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.64	752.8	29.76	755.9	64.9	18.3	73	.....	4	1	5	2	3	.....	2	14	4394	7071	2	Inap.	Inap.
El Paso	N. 31 47	W. 106 30	5.54 a.m.	3764	1147	26.19	665.2	29.80	750.9	58.2	14.6	52	1	5	13	1	.....	.....	6	3	2	3861	6214	3	1.27	32.3
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.58	649.7	29.88	758.9	49.8	9.9	73	2	1	.....	.....	1	1	4	3	19	2652	4268	4	2.49	63.2
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.59	650.0	29.92	760.0	43.4	6.3	66	.....	.....	.....	13	2	.....	4	12	.....	4866	7831	3	1.02	25.9
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.66	626 4	29.90	759.4	43.2	6.2	72	2	1	4	9	2	9	4	.....	.....	6243	10047	3	0.86	21.8
Northern plateau.																												
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.12	688.8	29.96	761.0	49.7	9.8	79	.....	5	3	1	.....	9	2	1	10	3230	5198	4	3.14	79.8
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.15	740.4	29.94	760.5	52.2	11.2	76	.....	1	.....	.....	.....	5	.....	7	18	973	1566	4	3.02	76.7
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27 94	709.7	30.00	762.0	48.5	9.2	78	.....	.....	3	5	5	3	5	1	9	4392	7068	5	1.53	38.9
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.21	716.5	29.97	761.2	48.4	9.1	77	3	2	.....	10	4	3	7	1	1	4600	7403	5	3.08	78.2
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.79	756.7	29.99	761.7	50.4	10.2	90	6	2	12	.....	5	4	1	1	.....	5712	9192	8	3.45	87.6
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.93	760 2	29.97	761.2	46.4	8.0	90	.....	.....	3	4	.....	.....	.....	24	1979	3185	6	2.84	72.1
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.94	760.5	.....	.....	44.3	6.8	94	.....	1	5	6	15	3	1	.....	.....	4142	6666	6	1.47	37.3
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.87	758.7	29.97	761.2	49.2	9.6	92	.....	4	4	11	2	4	4	2	.....	6712	10802	6	5.46	138.7
Portland	N. 45 32	W. 122 43	3.49 a.m.	67	20	29.90	759 4	29.98	761.5	51.2	10.7	86	1	3	.....	1	8	.....	.....	.....	18	2701	4347	6	4.69	119.1
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.45	748.0	30.01	762.2	48.8	9.3	91	2	2	.....	3	2	.....	2	6	14	2160	3476	5	2.91	73.9
Mid. Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.32	744.7	29.99	761.7	47.9	8.6	87	10	14	1	.....	.....	3	.....	1	2	13002	20924	4	0.62	15.7
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.58	751.3	29.90	759.4	54.6	14.8	66	3	13	1	2	5	1	2	.....	4	4599	7401	2	0.64	16.3
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.85	758.2	29.90	759.4	56.5	13.6	74	.....	2	.....	1	12	12	1	.....	3	6289	10121	1	Inap.	Inap.
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.90	759.4	29.95	760.7	53.8	12.1	87	1	4	11	12	1	.....	.....	.....	2	8963	14424	6	0.04	1.0
S. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.56	750.8	29.89	759.2	56.3	13.5	89	1	1	1	.....	.....	1	4	2	21	3189	5132	8	0.06	1.5
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.84	757.9	29.88	758.9	59.0	15.0	84	.....	9	3	3	3	4	7	2	.....	3993	6426	8	0.61	15.5
Alaska stations.																												
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.80	756.9	29.88	758.9	32.8	0.4	91	4	4	2	5	3	1	5	1	6	7538	12131	7	1.04	26.4
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.82	757 4	29.92	760.0	46.5	8.1	81	.....	7	9	4	1	7	1	.....	2	6289	10121	7	3.55	90.2
Unalashka	N 53 53	W. 166 32	1.02 a.m.	13	4	29.79	756 7	29.83	757.7	39.4	4.1	76	2	3	3	7	5	8	1	1	1	7360	11845	8	1.47	37.3
Sub-Series.																												
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.70	754.4	29.75	755.6	34.0	1.1	93	7	6	.....	3	5	.....	3	7	.....	8880	14291	7	1.19	30.2
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.91	759.7	29.86	758.4	77.1	25.1	85	2	12	2	.....	.....	4	2	4	5	.....	.....	6	5.89	149.6
Cay Sal Light H.	N. 23 56	W. 80 28	6.38 a.m.	?	?	.....	.....	29.95	760.7	80.2	26.8	82	.....	5	...	1	2	8	7	5	3	.....	.....	5	0.40	10.2
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.99	761 7	80.0	26.7	76	5	.....	.....	.....	.....	8	3	1	14	b3542	b5700	4	2.72	69.1
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.02	762.5	29.94	760.5	79.0	26.1	82	.....	.....	.....	.....	.....	2	4	24	1	.....	.....	6	11.52	292.6
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	78.2	25.7	80	2	.....	.....	1	1	4	9	13	1	.....	.....	6	1.78	45.2

OCEAN SQUARE DATA FOR MAY 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.91	759.7	75.7	24.3	1						4	26			4.5
12.5 27.5	29.95	760.7	76.1	24.5	1						7	23			4.4
12.5 32.5	29.97	761.2	77.1	25.1	1						9	15		6	4.6
12.5 37.5	29.99	761.7	78.3	25.7							11	13		7	4.6
12.5 42.5	30.00	762.0	78.7	25.9	1						11	16		3	4.4
12.5 47.5	30.02	762.5	78.9	26.1					1	1	20	6		3	4.4
12.5 52.5	30.02	762.5	79.5	26.4					1	1	27	1		1	4.1
17.5 22.5	29.97	761.2	72.4	22.4							10	21			5.0
17.5 27.5	29.99	761.7	73.3	22.9	2					1	8	20			4.8
17.5 32.5	30.02	762.5	75.6	24.2							13	13		5	4.5
17.5 37.5	30.03	762.7	76.2	24.6							16	8		7	4.3
17.5 42.5	30.05	763.3	77.1	25.1	1	1				1	20	4		4	4.0
17.5 47.5	30.06	763.5	77.7	25.4	2				1	5	19	1		3	3.9
17.5 52.5	30.06	763.5	79.6	26.4	1				4	4	18	1	1	2	3.7
17.5 57.5	30.02	762.5	81.4	27.4					1	9	20			1	3.8
22.5 22.5	30.03	762.7	71.0	21.7					2	1	8	19		1	3.6
22.5 27.5	30.04	763.0	72.5	22.5	1			1	1	1	7	14		6	4.0
22.5 32.5			74.2	23.4	1			1			13	5		11	3.9
22.5 37.5			74.7	23.7	1	1	1	1			13	4		10	3.9
22.5 42.5			75.5	24.2	1	1	1			1	14			13	3.9
22.5 47.5			76.3	24.6		2	1	2	3	3	11			9	3.7
22.5 52.5	30.10	764.5	77.3	25.2	2			1	7	5	9		1	6	3.2
22.5 57.5	30.07	763.8	78.2	25.7			2		5	8	6	4	2	4	3.0
22.5 62.5	30.04	763.0	77.7	25.4			1	2	2	16	6	2	2		3.2
22.5 67.5	30.02	762.5	78.2	25.7			1	2	4	13	10		1		3.5
22.5 72.5	29.99	761.7	79.7	26.5	1		2	1	3	10	5	1			3.2
27.5 22.5	30.09	764.3	70.0	21.1	4				4		10	9		4	3.2
27.5 27.5	30.10	764.5	71.6	22.0	1	1		1	2		12	6		8	3.5
27.5 32.5			72.8	22.7	1		1	2			13	3		11	3.6
27.5 37.5			73.1	22.8	1		4			1	12	2		11	3.6
27.5 42.5			73.3	22.9		1	3		1	1	13	1		11	3.8
27.5 47.5			73.8	23.2		3	1		2	2	11	1		11	3.7
27.5 52.5	30.12	765.0	74.2	23.4	2	3	2	2	5	6	7			4	3.5
27.5 57.5	30.10	764.5	74.5	23.6	3	2	3	1	8	4	6	1		3	3.2
27.5 62.5	30.07	763.8	74.5	23.6	3	1	1	4	8	7	3	1		3	3.6
27.5 67.5	30.04	763.0	74.8	23.8	1		5	1	12	7	2	3			4.0
27.5 72.5	30.01	762.2	76.6	24.8	3	1		3	7	10	4	1		2	3.5
27.5 77.5	29.98	761.5	77.5	25.3	2		4	1	7	7	9	1			2.7
32.5 12.5	30.09	764.3	68.2	20.1	10		6		1		5	9			2.6
32.5 17.5	30.11	764.8	67.8	19.9	8		6	3	4		5	5			2.2
32.5 22.5	30.12	765.0	68.8	20.4	3	2	2	3	4	1	7	6		3	3.1
32.5 27.5	30.13	765.3	69.9	21.1	2	1	2	5	3	1	10	2			3.3
32.5 32.5			70.4	21.3	2	2	1	4	6		8	1		7	3.4
32.5 37.5	30.12	765.0	70.3	21.3	3	2	3	7	2	2	5	2		5	3.8
32.5 42.5	30.11	764.8	70.3	21.3	4		4	5	3	1	6	1		7	4.0
32.5 47.5	30.10	764.5	70.4	21.3	1	3	5	3	3	5	3	2		6	4.3
32.5 52.5	30.10	764.5	70.4	21.3	2	3	7	4	5	5	1		1	3	3.7
32.5 57.5	30.08	764.0	69.9	21.1	2	4	3	4	10	3	1	2		2	3.7
32.5 62.5	30.05	763.3	69.5	20.8	3	3	2	6	11	3	2			1	3.9
32.5 67.5	30.02	762.5	70.4	21.3	1	2	4	5	10	1	3	3		2	4.0
32.5 72.5	29.99	761.7	71.4	21.9	1	2	3	7	10	5	1	2			4.1
32.5 77.5	29.96	761.0	70.7	21.5	7	1	3	8	6	2	1	3			3.7
37.5 12.5	30.09	764.3	65.2	18.4	6	6	11	1	2			5			3.2
37.5 17.5	30.10	764.5	65.1	18.4	3	4	13	3	1		3	4			2.8
37.5 22.5	30.11	764.8	66.4	19.1	2	3	10	6	1	3	6				3.2
37.5 27.5	30.11	764.8	67.4	19.7	3	1	12	5	2	2	4	1	1		3.3
37.5 32.5	30.09	764.3	66.7	19.3	3	3	5	8	3		4	3		2	3.8
37.5 37.5	30.07	763.8	66.5	19.2	1	3	5	7	4		6	4		1	3.5
37.5 42.5	30.05	763.3	65.8	18.8	2	7	3	6	3	2	6	1		1	4.4
37.5 47.5	30.05	763.3	64.9	18.3	2	2	7	7	5	1	2	3	1	1	4.5
37.5 52.5	30.06	763.5	64.0	17.8	5	5	3	7	2	5	3		1		4.3
37.5 57.5	30.05	763.3	63.4	17.4	4	6	3	3	8	4	2	1			4.3
37.5 62.5	30.03	762.7	63.0	17.2	6	3	3	6	6	2	3	2			4.4
37.5 67.5	29.99	761.7	62.2	16.8	3	2	2	4	6	5	3	3		3	4.2
37.5 72.5	29.94	760.5	61.6	16.4	5	4	1	4	5	3	5	3		1	4.3
42.5 12.5	30.00	762.0	60.8	16.0	6	1	10	7	3			4			3.2
42.5 17.5	30.01	762.2	61.5	16.4	2	6	9	5	3	1		5			4.3
42.5 22.5	30.01	762.2	62.5	16.9		7	9	2	5	1	5	2			4.9
42.5 27.5	30.01	762.2	63.0	17.2		7	8	4	4	1	3	3		1	4.7
42.5 32.5	30.02	762.5	62.8	17.1	1	8	8	4	2	2	4	2			4.8
42.5 37.5	30.01	762.2	61.9	16.6	3	5	7	4	2	3	5	2			4.9
42.5 42.5	29.99	761.7	60.2	15.7	4	5	3	5	3	2	5	3	1		4.3
42.5 47.5	29.98	761.5	55.6	13.1	5	5	4	4	5	2	1	3		2	4.6
42.5 52.5	30.00	762.0	52.4	11.3	5	5	6	2	5	1	3	3	1		4.5
42.5 57.5	30.02	762.5	53.5	11.9	3	6	4	5	3	2	3	4		1	4.6
42.5 62.5	30.03	762.7	53.5	11.9	8	4	1	3	6	3	3	3			3.7
42.5 67.5	30.00	762.0	49.8	9.9	1	5	5	2	3	4	8	2		1	3.5
47.5 12.5	29.91	759.7	56.3	13.5	8	2	11	6	2	1	1				4.6
47.5 17.5	29.93	760.2	55.8	13.2	8	6	5	7	1		1	2	1		4.3
47.5 22.5	29.94	760.5	55.7	13.2	4	7	4	3	4	2	3	4			5.0
47.5 27.5	29.96	761.0	55.7	13.2	3	5	3	1	5	5	5	3		1	4.8
47.5 32.5	29.96	761.0	56.3	13.5	1	5	5	4	3	6	2	4		1	5.0
47.5 37.5	29.98	761.5	55.7	13.2	2	3	5	5	3	1	6	4	1	1	4.8
47.5 42.5	29.98	761.5	51.8	11.0	5	3	6	7	5	1	2	2			4.4
47.5 47.5	29.93	760.2	47.5	8.6	3	2	6	7	5	3	2	3			4.3
52.5 12.5	29.81	757.2	51.4	10.8	4	7	7	4	3			6			4.9
52.5 17.5	29.85	758.2	51.1	10.6	5	9	4	1	1	3	1	7			5.2
52.5 22.5	29.91	759.7	50.3	10.2	8	6	2	1		3	2	6		3	4.9
52.5 27.5	29.93	760.2	50.2	10.1	5	4	5		2	3	3	2		7	5.1
52.5 32.5					1	3		1	2	1	1	3		19	
52.5 37.5					1	2		2		2				24	
52.5 42.5										2	1			28	
52.5 47.5										1				30	
57.5 12.5	29.81	757.2	48.0	8.9	9	3	1		3	1	3	9	1	1	4.2
57.5 17.5	29.88	758.9	47.1	8.4	7	2	3		1		3	11		4	4.6
57.5 22.5	29.92	760.0			5	1	1	1	1		3	10		9	4.9
57.5 27.5					2	2			3	2	4	2		16	
57.5 32.5					1					3	1			26	
57.5 37.5					1					2				28	
57.5 42.5														31	
57.5 47.5														31	

REVIEW.

INTERNATIONAL METEOROLOGY FOR MAY, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of May, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon, Greenwich, mean time:

The area of lowest mean pressure in May is located in the interior of British India, with mean pressures ranging from 29.57 (751.1) to 29.60 (751.8). Three additional areas of low mean barometer appear bounded by the pressure lines of 29.80 (756.9). One includes eastern Asia from E. 130° between N. 45° and 55°, the Sea of Okhotsk, Kamchatka, and a portion of Behring Sea; another embraces an area including northwestern Mexico and portions of New Mexico and Arizona; and the third extends from the southwest coast of Ireland northeastward, including the British Isles north of N. 52°, the North Sea, and the western half of Scandinavia.

The only marked area of barometric maxima is charted in the north Atlantic; it covers the ocean between the parallels of N. 22° and 28°, and from W. 15° to 57°. The highest mean pressure recorded within this area is 30.12 (765.0) in N. 27°, W. 52°. Areas of relatively high pressure, bounded by the lines of 30.00 (762.0), occupy the northwestern portion of Iceland and the Arctic Ocean to the northwestward, Siberia north of the fifty-sixth parallel between E. 80° and 105°, and the Pacific Ocean off the western coast of the United States between N. 35° and 50°.

Over the United States east of the Rocky Mountains the mean pressure ranges from 29.90 (759.4) to 30.00 (762.0), decreasing to 29.75 (755.6) in the southern portion of Arizona. Over Newfoundland, Labrador, and the adjacent ocean to the northward, the mean pressure falls slightly below 29.90 (759.4).

Compared with the chart for the preceding month (April, 1885), there has been a decrease in pressure over the United States and the Canadian Provinces, except over New England, Newfoundland, and Labrador, where it ranges .01 to .10 of an inch higher. Over the north Atlantic the pressure is generally about .10 lower. Over the British Isles the mean pressure remains the same. Over Spain it ranges .10 higher. Over France and Germany it is slightly higher. Over Scandinavia it is somewhat lower. Over Italy and Austro-Hungary it is higher, while in European Russia there has been a slight decrease. Over Siberia and central Asia a decrease of .10 of an inch is shown. In British India the pressure has remained about the same. Over eastern Asia and the adjacent islands there has been a decrease, averaging about .10 of an inch. Over the Pacific northwest of the United States slight changes are noted. Compared with the corresponding month of previous years, the mean atmospheric pressure over the United States during May, 1885, is shown to be above the normal from the Rocky Mountains eastward to the Mississippi Valley; along the New England coast it is normal, and in all other portions of the country it is below the normal. The mean pressure is .18 below the normal over the British Isles; except in Russia, it is everywhere below the normal over the balance of Europe, the decrease ranging from .02 to .13 of an inch.

The following table shows the mean pressure and mean temperature for May, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	May mean of 8 (1877-'84) years.	May, 1885.	Departure.	May mean of 8 (1877-'84) years.	May, 1885.	Departure.
				°	°	°
Austro-Hungary	29.90	29.87	— 0.03	65.1	63.0	— 2.1
British Isles	29.99	29.80	— 0.18	55.5	51.7	— 3.8
Denmark	29.94	29.84	— 0.10	54.1	47.5	— 6.6
France	29.98	29.85	— 0.13	63.4	58.8	— 4.6
Germany	29.96	29.87	— 0.09	60.2	56.8	— 3.4
India *	29.62	29.65	+ 0.03	91.9	90.0	— 1.9
Italy	29.95	29.92	— 0.03	68.2	67.4	— 0.8
Norway	29.87	29.82	— 0.05	51.1	46.7	— 4.4
Russia	29.89	29.90	+ 0.01	61.6	61.9	+ 0.3
Spain	29.99	29.99	normal	67.7	64.0	— 3.7
Sweden	29.90	29.88	— 0.02	50.3	46.0	— 4.3

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of May, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	May mean of 8 (1877-'84) years.	May, 1885.	Departure.	May mean of 8 (1877-'84) years.	May, 1885.	Departure.
				°	°	°
Astrakhan, Russia	29.90	29.97	+ 0.07	72.3	77.7	+ 0.4
Archangel, Russia	29.88	29.89	+ 0.01	46.3	44.2	— 2.1
Athens, Greece*	29.93	29.94	+ 0.01	74.1	77.5	+ 3.4
Beirut, Turkey in Asia	29.93	29.87	— 0.06	75.3	77.4	+ 2.1
Barnaul, Siberia, Asia	29.91	29.98	+ 0.07	58.2	54.0	— 4.2
Bridgetown, Barbadoes	30.00	29.94	— 0.06	83.0	85.0	+ 2.0
Cape Town, Cape of Good Hope	.....	.....	.....	65.8	62.0	— 3.8
Ekaterinburg, Russia	29.87	29.97	+ 0.10	58.1	57.6	— 0.5
Fort Napier, Natal, South Africa	29.94	29.86	— 0.08	71.9	74.2	+ 2.3
Freetown, Sierra Leone	29.90	29.78	— 0.12	85.9	82.5	— 3.4
Funchal, Madeira Islands	30.11	30.11	normal.	67.3	68.0	+ 0.7
Gibraltar	30.03	30.06	+ 0.06	69.0	66.9	— 2.1
Havana, Cuba, W. I	30.02	29.90	— 0.12	77.8	76.2	— 1.6
Malta, Mediterranean Sea	29.94	29.92	— 0.02	69.1	68.0	— 1.1
Melbourne, New South Wales	30.04	30.11	+ 0.07	53.3	53.6	+ 0.3
Mauritius, Indian Ocean	30.05	29.96	— 0.09	75.6	76.4	+ 0.8
Nassau, Bahamas, W. I	30.03	29.97	— 0.06	77.8	80.7	+ 2.9
Nikolaevsk on the Amoor, Asia	.....	29.76	.....	36.2	34.3	— 1.9
Paramaribo, D. Guiana, S. A	30.05	29.94	— 0.11	79.8	79.0	— 0.8
Ponta Delgada, Azores	30.16	30.11	— 0.05	64.8	67.3	+ 2.5
Sandwick Manse, Orkney Islands	29.91	29.79	— 0.12	49.0	46.2	— 2.8
San Juan de Puerto Rico, W. I *	30.01	29.99	— 0.02	79.6	78.4	— 1.2
Stykkisholm, Iceland	29.89	30.04	+ 0.15	40.5	38.8	— 1.7
Tashkend, Toorkistan, Asia *	29.85	29.80	— 0.05	78.3	80.1	+ 1.8
Thorshavn, Färöe Islands	29.87	29.77	— 0.10	46.4	44.4	— 2.0
Tiflis, Russia	29.88	29.86	— 0.02	70.6	79.3	+ 8.7
Tokei, Japan	29.93	29.92	— 0.01	60.5	58.3	— 2.2
Yeniseisk, Siberia, Asia *	29.95	30.02	+ 0.07	47.2	47.7	+ 0.5
Zi-Ka-Wei, China	29.90	29.85	— 0.05	62.8	62.8	normal.

* Means for seven years only.

During May, 1885, the mean temperature of the air was below the normal in all districts in the United States east of the Rocky Mountains, and above the normal in the northern plateau and on the Pacific coast.

In Europe the mean temperature was below the normal, except in Russia, where it ranged slightly above the average for eight years. In British India it was 1°.9 below the normal; the highest mean temperatures reported were: 99°.1 Fahr. (37°.3 Cent.), at Deesa, and 97°.4 Fahr. (36°.3 Cent.), at Agra and Nagpur; the lowest was 78°.2 Fahr. (25°.7 Cent.), at Sibsagar.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes	85.0	29.4	Fort Saint Michael's, Alaska	32.8	+ 0.4
Freetown, Sierra Leone	82.5	28.1	Behring Island, Behring Sea	34.0	1.1
San Salvador, Africa	83.7	28.7	Nikolaevsk, on the Amoor	34.3	1.3
Lucknow, British India	94.7	34.8	Stykkisholm, Iceland	38.8	3.8
Allahabad, British India	97.1	36.2	Cheyenne, United States	38.2	3.4

In the United States the prevailing winds were from north to northwest in the upper Mississippi and Missouri valleys and the Northwest; along the south Atlantic and east Gulf coasts they were southeast to southwest; on the middle Atlantic coast

they were from east to northeast; in other districts they were variable. On the Atlantic Ocean southerly winds prevailed from the coast of the United States eastward to the sixtieth meridian, and northwest to southwest winds from that meridian to the western coast of Europe. South of N. 30° easterly winds prevailed. Over the British Isles, Spain, and France the winds were mostly south to west. Over the balance of Europe they were generally southerly, except in the northern portion of Scandinavia and northern Russia, where they were from northerly to easterly. In the United States the precipitation during May, 1885, was in excess of the average in the lower lake region, upper Ohio valley, Tennessee, middle and south Atlantic, and east Gulf states, portions of Kansas and Nebraska, and over an area extending from the west Gulf coast to the north Pacific coast region; and was deficient in the upper lake region, upper Mississippi valley, extreme northwest, and northern slope.

In Canada the precipitation was below the average in the Maritime Provinces, central, east, and northeast districts, and above the average in the west, northwest and southwest districts. In Ontario it was about normal. In the British Isles the precipitation was somewhat in excess of the average; in France it was below the normal.

TRACKS OF AREAS OF LOW PRESSURE FOR MAY, 1885.

Chart iii for May, 1885, shows the approximate paths of forty-two areas of low pressure that appeared in the northern hemisphere during the month.

This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data, viz.: Chart i for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

Eight areas of low pressure (i to viii, inclusive) are traced over the North American continent. Five of these storms (numbers ii, v, vi, vii, and viii) apparently originated on the Pacific coast or in the plateau region, but were not sufficiently well defined to render it possible to accurately trace them west of the one hundred and fifth meridian. The movement of these low areas west of the Mississippi was irregular, and, in cases, it was difficult to locate the centre of disturbance. Numerous secondary depressions were formed which disappeared quickly and their movements are therefore not traced upon the chart. It will be seen from chart i that the low areas traced during the month moved generally to the northeast after passing the Mississippi Valley, and that the direction of movement when to the westward of that valley was irregular.

Number i originated in the eastern portion of the United States on the 1st, in N. 48°, and passed slightly north of east into the Atlantic during that date. On the morning of the 2d it was central in N. 40° 30′, W. 68°. From this point it pursued a course east of north into the Gulf of Saint Lawrence, disappearing to the northeastward during the 3d. Number iii first appeared on the morning of the 6th in the Ohio Valley, from this position moving southeastward and passing off the Atlantic coast, in N. 35°, during the 7th; it then moved northeastward, disappearing on the 8th.

Twelve areas of low pressure are traced on the Atlantic Ocean, of which only one, number xvi, is a continuation of storms that were first traced over the North American continent. This storm was a continuation of land depression number vi, and passed into the ocean off the southeast point of Newfoundland on the 20th. On the morning of the 21st it had moved due east eight degrees. From this position it it made a slight dip to the southward on the 22d, thence passing northeastward during the 23d to N. 51°, W. 26° on the 24th. During the next twenty-four hours it advanced eastward to the sixteenth meridian, disappearing on that date to the northeastward.

Numbers ix, x, xiv, and xvii originated in the north Atlantic and entered the continent of Europe. Numbers xi, xii, and xx originated and disappeared over the mid-Atlantic. Number xviii first appeared in N. 50°, W. 32°, and moved eastward to W. 20°, from thence assuming a northeasterly course, disappearing off the western coast of Scandinavia. Number xx appeared on the 31st in N. 52°, W. 39°, a scarcity of reports rendering it impossible to trace the depression beyond this point. The general course of the north Atlantic storms during this month was easterly to the twentieth meridian, the direction of progress being irregular after passing to the eastward of this longitude. Those which first appeared near the British coasts moved southeastward, while numbers x and xiv passed nearly due east to the west coast of France. The severest storms of the month accompanied numbers xi, xii, and xviii.

The storms which passed over the United States and the Atlantic Ocean are described in detail in the MONTHLY WEATHER REVIEW for May, 1885, under the headings "Areas of low barometer" and "North Atlantic storms," respectively.

Eleven depressions (numbers xxi to xxxi, inclusive) are shown over Europe. These occupy all portions of Europe, predominating in the central and northern portions. Three depressions (numbers xxiv, xxvii, and xxix) are continuations of storms traced over the north Atlantic. Number xxiv was a continuation of ocean depression number ix, and passed northeastward along the Belgium and Netherland coasts during the 4th, with pressure ranging below 29.60 (751.8). On the 5th it was central near Copenhagen, with central pressure 29.40 (746.7), from thence moving west of north to Christiania on the 6th. Passing northwestward during this date it reached the western coast of Norway in N. 61° 30′ on the 7th, with pressure 29.49 (749.0), whence it passed up the coast to about N. 63°. During the 8th it moved eastward with increasing pressure, passing over the Gulf of Bothnia into Finland on the 9th, and disappeared to the eastward.

Number xxvii was a continuation of ocean depression number x, and entered the coast of France in N. 47° on the 6th, with pressure ranging to 29.36 (745.7); passed northeastward, with higher barometer readings, during that date to the north German coast by the 7th; from thence continuing that direction through the Baltic Sea and the Gulf of Finland on the 7th and 8th; it disappeared to the southward of the White Sea on the 9th.

Number xxix was a continuation of depression number xiv charted over the Atlantic from W. 12°. It entered France on the 13th, with pressure ranging below 29.50 (749.3), and moved slightly south of east to N. 46°, E. 7° on the 14th, whence it passed, with increasing energy, north of east into Austro-Hungary by the 15th. On the 16th the depression moved slightly east of north through Poland with pressure 29.40 (746.7), reaching the eastern shore of the Baltic in N. 58° on the 17th, from this position passing east of north through Finland on the 17th and 18th; it disappeared to the northeastward of Kola peninsula on the 19th. Number xxi appeared on the morning of the 1st in southeastern Russia in about N. 49′, E. 44°, from which point it moved northeastward, passing into Asia in about N. 56° on the 2d, with a central pressure of about 29.45 (748.0).

Number xxii originated in Austro-Hungary on the 2d, and passed eastward over Romania, the northern arm of the Black Sea, and the Sea of Azov during the 2d and the 3d, disappearing to the eastward during the latter date. Number xxiii appeared on the 3d in eastern Russia and disappeared to the eastward on that date. Number xxv developed in Finland on the 4th and passed eastward over the White Sea into northern Russia the same date. Number xxvi first appeared in the southeastern portion of Poland on the 6th and passed northeastward into Russia, disappearing to the eastward of the fiftieth meridian on the 8th. Number xxviii first appeared over the ocean north of Scotland, with pressure below 29.60 (751.8), on the 9th; moved southeastward into the North Sea

by the 10th, and east of north into Sweden by the 11th. It then followed an easterly course in N. 59°, and was central on the 12th in the Baltic Sea, from thence passing slightly north of east it disappeared to the westward of Saint Petersburg on the 13th, with central pressure remaining at about 29.60 (751.8). Number xxx is first charted on the 13th on the northwest coast of the Sea of Azov, from which point it passed northeastward into east Russia on the 14th. Number xxxi first appeared in Austro-Hungary on the 19th, with pressure about 29.80 (756.9), and moved east of north during that date. On the 20th and 21st it pursued a northerly course through Poland, inclined to the westward and entered the Baltic Sea on the 22d, disappearing over the Scandinavian Peninsula during that date.

The general weather conditions over Europe during the month were as follows: Under the influence of ocean depression number ix (land storm number xxiv) rain and fresh gales prevailed over the British Isles, France, and portions of Germany from the 1st to the 5th; depressions numbers xxi and xxii causing rain-areas over southeastern Europe from the 1st to the 3d. On the 6th and 7th depression number xxvii caused unsettled weather to continue over western Europe as far south as the Mediterranean, and the development on the 6th of depression number xxvi in Poland was accompanied by rain throughout central Russia during the three succeeding days.

On the 9th the weather was clearing throughout the Mediterranean districts, but the advance of depression number xxviii from north of Scotland caused rain in portions of the British Isles. The eastward movement of this area of low caused stormy weather over France and northward to the Arctic Ocean during the next two days. On the 13th and 14th, under the influence of depression number xxix, severe wind and rain storms prevailed throughout France and portions of Germany; the disturbed conditions continuing until the 20th when the approach and passage to the northeastward over the British Isles of ocean depression number xvii caused rain and generally stormy weather over western Europe until the 24th.

During the balance of the month the weather was comparatively settled over Europe, except in extreme western portions where areas of rain were caused by ocean depression number xviii which passed to the westward and northward of the British Isles from the 28th to the 30th.

The probable paths of ten areas of low pressure are shown in Asia and off its eastern coast and over the Japanese Islands.

Number xxxii appeared north of Yesso on the 5th, with pressure about 29.47 (748.5), disappearing to the northeastward same date. This depression caused general rains and fresh south to west gales over the Japanese Islands.

Number xxxiii developed in about N. 52°, E. 169° on the 7th and disappeared to the northeastward. This depression exhibited pressure 29.48 (748.8), but an absence of reports rendered it impossible to follow its course.

Number xxxv first appeared in Kiu-siu on the 9th, with pressure 29.37 (746.0); from this position passing slightly north of east into Hondo on the 10th, whence it moved northeastward off the eastern coast of Yesso during the 10th and 11th. This storm possessed considerable energy and caused heavy rain over the Japanese Islands.

Number xxxiv originated near the Aleutian Islands on the 8th and exhibited pressure 29.25 (742.9). By the 9th it had moved eastward about four degrees with a slight increase in pressure; it then apparently merged into an area of low pressure which remained nearly stationary over the extremity of Alaska Peninsula from the 10th to the 12th, inclusive.

Number xxxvi apparently orignated in Behring Sea, off the coast of Alaska, on the 23d, and probably moved southeastward, causing an area of low pressure over the Pacific Ocean west of British America from the 23d to the 25th.

A depression, number xxxvii, with pressure 29.54 (750.3), appeared on the western coast of Alaska on the 14th and apparently passed eastward into the interior during that date.

Number xxxviii appeared in China, in about N. 26, E. 115°, on the 14th, with pressure ranging below 29.60 (751.8). During the next twenty-four hours it moved northeastward to about N. 28°, E. 118°. From this position the area of low pressure apparently passed southeastward off the coast to about N. 24°, E. 126°; from thence assuming a northeasterly course and passing over Kiu-siu and Hondo on the 17th and 18th, with an increase of pressure and rain. On the 19th it had moved eastward off the coast of Hondo to about N. 36°, E. 145°, whence it passed northward, with pressure falling below 29.40 (746.7), to the east coast of Yesso on 20th. During this date it made slight progress to the northeastward, but during the 21st it advanced rapidly, disappearing to the eastward of Kamchatka on the 22d.

Number xxxix is charted to the northward of the Aleutian Islands on the 16th, with pressure 29.53 (750.0). During this date the depression moved northeastward and disappeared off the coast of Alaska on the 17th.

Number xl first appeared off the northern coast of Kiu-siu on the 27th, with pressure 29.53 (750.0) and rain and fresh southerly gales off the eastern coasts of the Japanese Islands. On the 28th it had moved slightly north of east off the coast of Hondo, with rain and slight changes in pressure. During this date it disappeared to the eastward.

Depression number xli appeared on the 31st in the eastern portion of Amoorskaya, with pressure 29.31 (744.5), and passed eastward into the Sea of Okhotsk during that date.

From the 23d to 25th, inclusive, an area of low pressure, exhibiting barometric readings of 29.36 (745.7) on the 24th, was located over the interior in about N. 50°, E. 120°.

Depression number xlii appeared in the Gulf of Aden on the 30th. At 4 p. m. (Greenwich mean time) of that date the centre of disturbance was located in N. 12° 50′, E. 60° 25′. From this position it moved due west to E. 59° 10′ at 4 a. m. of the 31st. During this date it continued its westward course to E. 56° 50′ at noon (Greenwich mean time), and passed to the westward of the fifty-fifth meridian at midnight. The storm developed very violent and destructive features during the first four days of June, and a full description of its characteristics and effects will be given in the issue of this publication for June, 1885.

TRACKS OF AREAS OF LOW PRESSURE FOR APRIL, 1883.

Chart iii for April, 1883, shows the approximate paths of forty-nine areas of low pressure that appeared in the northern hemisphere during the month. This chart continues the series of international charts begun in November, 1877, of which numbers for six months of 1883 have not been published. It is the intention of this office to complete the record by issuing with each publication of the INTERNATIONAL SUMMARY AND REVIEW an additional chart, with accompanying text, descriptive of areas of low pressure which appeared during the months of 1883, above referred to. The following data has been used in the preparation of this chart: Chart i for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

Nine areas of low pressure (i to ix, inclusive) are traced over the North American continent. Two of these depressions approached from the north Pacific and were traced across the continent, each having a southeasterly course until the centres of disturbance reached the one hundredth meridian. The region of greatest storm frequency extended over the states of Kansas and Colorado, although depressions are usually more frequent during the month of April in Minnesota and off the middle Atlantic coast. East of the Mississippi Valley the general course of the depressions was northeasterly. One storm, number viii, moved slightly south of east; two, numbers ii and vi, passed off the coast to the southeastward; number iii first appeared in the northwestern portion of Manitoba and moved southeastward, disappearing over the upper lake region; number ix was first charted in the Province of Quebec and moved eastward into the Gulf of Saint Lawrence.

These storms are described in detail in the MONTHLY WEATHER REVIEW for April, 1883, under the heading "Areas of low barometer."

Eleven areas of low pressure (x to xx, inclusive) are traced on the Atlantic Ocean, of which five, numbers xiii, xvi, xviii, xix, and xx, are continuations of storms that were first traced over the North American continent.

Number xiii was a continuation of land depression number i and passed off the northern coast of Newfoundland on the 7th, with barometric pressure 29.51 (749.5); moving slightly east of north it reached the southern point of Greenland by the morning of the 8th, with pressure decreased to 29.08 (738.6) and rain over the southern portion of Greenland; from this position, passing along the western coast, it disappeared to the northward of the seventieth parallel during the 9th without an apparent loss of energy.

Number xvi was a continuation of land depression number iv and moved northeastward from the upper lake region, through Canada and Labrador, passing off the coast in N. 58° during the 12th, with pressure ranging below 29.80 (756.9). On the morning of the 13th it was central off the west coast of Greenland, in N. 64°, with pressure 29.35 (745.5); from this point moving northeastward during that date beyond the region of observation.

Number xviii was a continuation of land depression number vi and passed off the eastern coast of the United States, in N. 41°, on the 16th, without exhibiting special energy. By the morning of the 17th it had moved southeastward to N. 35°, W. 74°, with a rapid decrease of pressure to 29.70 (754.4), and rain. During the next twenty-four hours it moved northeastward to N. 38°, W. 70°, with an appreciable decrease in force and was apparently dissipated to the northeastward of that position during the 18th.

Number xix was a continuation of land depression number vii and passed off the southeastern point of Newfoundland on the 21st. The course of this storm across the Atlantic Ocean west of the tenth meridian is described in detail in the MONTHLY WEATHER REVIEW for April, 1883, under the heading "North Atlantic storms." After reaching this meridian the storm passed northward to, and along, the west coast of Ireland during the 26th, 27th, 28th, and 29th. On the 27th it was central in N. 50°, W. 10°, with pressure 28.89 (733.5), and fresh gales and rain from the French coast to the twentieth meridian. On the 28th it had moved north one degree, with an increase in pressure, and a continuation of gales and rain as far west as the thirtieth meridian. On the 29th it had moved north about two degrees, with a further and decided increase of pressure. Fresh gales and rain continued during this date east of the thirtieth meridian. On the 30th the centre of disturbance had moved off the coast of Ireland to the westward. Number xx continues land depression number viii which passed off the coast of the United States in N. 36° on the 23d, with pressure about 29.65 (753.1). By the morning of the 24th this depression had moved north of east to N. 39°, W. 64°, with a marked decrease in pressure and fresh gales and rain; following a northerly course the storm was central on the 25th in N. 43°, W. 63°, with increased pressure and a decided loss of energy. During this date the depression disappeared off the southern coast of Newfoundland. Number x appeared on the 1st in about N. 58°, W. 34°, with central pressure about 29.20 (741.7). Moving northeastward, it was central on the 2d at noon (Greenwich mean time) off the southwest coast of Iceland, with pressure ranging to 28.66 (728.0) at Stykkisholm. During this date the depression passed northeastward beyond the region of observation.

Number xi first appeared near the southern point of Greenland on the 3d, with pressure below 29.00 (736.6); from thence it moved northeastward to N. 66°, W. 28° by noon (Greenwich mean time) of the 4th, with strong gales and rain, and passed to the northward of Iceland beyond the limit of reports.

Numbers xii and xiv originated and disappeared over mid-ocean, and are described in the MONTHLY WEATHER REVIEW for April, 1883, under the heading "North Atlantic storms."

Number xv is first charted off the west coast of Greenland in N. 64° on the 10th, with pressure 29.56 (750.8) and fresh gales. From this position it moved up the west coast to N. 71° on the 11th, with decreasing pressure, from thence apparently passing south of east, it was central at 12 noon (Greenwich mean time) of the 12th off the northern coast of Iceland, with evidence of great energy. During this date it passed to the eastward beyond the region of reports.

Number xvii first appeared in N. 64°, W. 5° on the 15th, with pressure 28.77 (730.7), fresh gales and rain. Assuming a northeasterly course, it was central at 12 noon (Greenwich mean time) of the 16th in N. 68°, E. 5°, with a marked decrease in energy. During this date it disappeared north of the seventieth parallel.

A noteworthy feature in connection with the north Atlantic storms for this month is the great diversity in the location of their tracks. No less than six well developed and clearly defined depressions originated above, or passed to the northward of, the sixtieth parallel, while three are traced beyond N. 70°. It is also interesting to note the unusual and apparently great energy which was developed in the storms traced in high latitudes.

Of the nineteen depressions (xxi to xxxix, inclusive) traced over Europe and adjoining waters, a large proportion are located over the southern portion.

Number xxi apparently originated in the Baltic Sea and appeared off the southwest coast of Finland on the 1st, with slight energy. At 12 noon (Greenwich mean time) it had moved slightly south of east to Saint Petersburg, with pressure decreased to 29.54 (750.3) and a widely extended influence. It then moved south about three degrees, diminishing in force, and on the 4th, was apparently dissipated to the southeastward.

Number xxii developed in the Mediterranean and was central on the 1st in N. 40°, E. 5°, with rain to the northward. On the 2d it had moved slightly to the southeastward, and on the 3d passed over the southern portion of Sardinia and disappeared to the eastward of that island without developing special features.

Number xxiii first appeared off the west coast of Italy in N. 42° on the 6th, passed due west two degrees by the 7th and circled to the south and east over Sardinia by the 8th; remaining nearly stationary off the eastern coast of Sardinia until the 9th the depression assumed a course slightly north of east, and was central over Italy in N. 41° on the 10th. At 12 noon (Greenwich mean time) of the 11th the centre of depression is charted in the Adriatic Sea, in N. 42°, from which position it moved rapidly north of east to the west coast of the Black Sea by the 12th, during which date it passed eastward over that body of water, disappearing over Caucasia during the 13th.

Number xxiv is first charted in the Arctic Ocean in N. 70°, E. 10° on the 8th, with rain and fresh winds on the west and northwest coasts of Norway. Moving southeastward the depression was central on the 9th over the Gulf of Bothnia, in N. 65°, whence it disappeared to the eastward into Finland during the 10th without developing special force.

Number xxv developed off the west coast of Norway on the 11th and passed northeastward over the northern portion of the Scandinavian Peninsula during the 12th. This storm apparently possessed but little strength.

Number xxvi first appeared over the Mediterranean on the 12th, between the coasts of Italy and Sardinia, and moved eastward over Italy and the Adriatic Sea into Turkey by the 13th, during which date it scattered. The passage of this depression was not accompanied by special features.

Number xxvii is first charted off the southwest coast of England on the 13th, during which date it moved east of north into the North Sea and was apparently absorbed by ocean depression number xvii.

Number xxviii originated off the eastern coast of northern Spain on the 13th, and, moving eastward, was central on the

14th north of Sardinia. This storm was possessed of but little individual strength and was dissipated off the west coast of Italy during the 14th.

Number xxix appeared on the 14th in the interior of Spain, was tolerably well defined, and possessed fair energy; following a course slightly east of south it disappeared into Africa during the 15th.

Number xxx first appeared over Jutland on the 16th and moved northeastward into Scandinavia by the 17th without developing marked energy.

Number xxxi originated in Austro-Hungary on the 14th, with pressure about 29.70 (754.4). Moving north of east to the thirtieth meridian on the 15th it passed northward during the 16th and 17th and disappeared above N. 55° on the 18th; this depression was accompanied by general rains. Number xxxii apparently originated off the coast of France on the 19th, passing eastward through that country in about N. 45° during that date, accompanied by general rains. At 12 noon (Greenwich mean time) of the 20th it was central in the Gulf of Genoa, with pressure about 29.75 (755.6) and strong gales over the Mediterranean to the southward. From this position the centre moved south of east to the west coast of Turkey in N. 40° by the 21st, with slight changes in pressure and light rains. At 12 noon (Greenwich mean time) of the 22d the depression was central over the western portion of the Black Sea, in about N. 43°, with a slight decrease of pressure. During the 22d it moved eastward over the Black Sea, disappearing over the eastern portion during the 23d.

Number xxxiv first appeared over northern Spain on the 23d, with pressure 29.61 (752.1), rain, and fresh gales to the southwestward. This storm moved northeastward during the next twenty-four hours and developed considerable energy, being central on the 24th in northern France, with pressure 29.50 (749.3). It then passed north of east, moving through Germany and Prussia in about N. 52° during the 25th and 26th, with a considerable decrease of energy; after which dates it passed southeastward, disappearing over the eastern portion of Austro-Hungary during the 27th.

Number xxxv developed on the northern slope of the Carpathian Mountains in Galicia on the 22d, from thence passing west of north into the Baltic Sea by the 23d, where it was attended by fresh gales and general rains. During this date it disappeared to the northward over Scandinavia. Number xxxvi first appeared off the southern coast of France in E. 4° on the 23d, from thence passing southeast to N. 42°, E. 6° by the 24th. From this position it moved northeastward, probably uniting with depression number xxxiv during the 25th.

Number xxxvii is first traced in central France on the 23d, and moved slightly to the northeastward by the 24th, with pressure about 29.50 (749.3) and a fair display of strength. From this location it passed northward into the North Sea, disappearing in the direction of Norway during the 25th.

Number xxxviii was apparently an offshoot of ocean depression number xix and was located in the central portion of France at 12 noon (Greenwich mean time) of the 28th, from thence passing eastward through southern Germany during the 29th it disappeared off the northwest coast of the Black Sea during the 30th. This storm exhibited pressure ranging below 29.40 (746.7) during the 29th and 30th, and caused atmospheric disturbances of a violent nature over southwestern Europe and the Mediterranean Sea.

Number xxxix was subsidiary to number xxxviii and developed over the northern portion of the Adriatic Sea on the 29th, during which date it moved to the eastward and was apparently absorbed by number xxxviii.

Ten areas of low pressure (xl to xlix, inclusive) are traced off the eastern coast of Asia and over the north Pacific Ocean, of which number, six are charted over, or in the vicinity of, the Japanese Islands; one in the Sea of Okhotsk; and three over Alaska and the ocean to the southeastward.

Number xl first appeared over the northwestern arm of the Sea of Okhotsk on the 1st, with pressure 29.59 (751.6) at Nikolaievsk, and apparently passed to the northeastward.

Number xli appeared off the southern coast of Hondo on the 3d, with pressure 29.40 (746.7), and general rain over the Japanese Islands to the northward. The centre of depression then moved eastward to about N. 35°, E. 146° by 12 noon (Greenwich mean time) of the 4th and passed beyond the region of observation.

Number xlii appeared southwest of Kiu-siu, in about N. 30°, E. 127°, on the 5th, with pressure 29.62 (752.3). By the 6th the depression had moved eastward six degrees, with an apparent slight increase in pressure, rain, and fresh easterly gales over, and off, the eastern coast of Hondo. On the 7th the centre of depression was located in about N. 32°, E. 147°, with fresh gales to the northward. During this date the storm passed beyond the eastern limit of reports.

Number xliii apparently developed off the western coast of Alaska during the 9th. At 12 noon (Greenwich mean time) of that date the depression was central near Saint Michael's, with pressure 29.14 (740.1). From this point it passed southeastward to Saint Paul on the 10th, with pressure reduced to 28.88 (733.5), and fresh gales and rain over Alaska and the Aleutian Islands. From this position it moved eastward to the western coast of North America, in N. 58°, by the 11th, with a marked increase in pressure. During this date it disappeared into the interior to the eastward. Number xliv is first charted off the eastern coast of Hondo, in N. 39°, on the 10th, from which position it moved southeastward to N. 38°, E. 145° by the 11th, disappearing to the eastward on that date. This depression caused rain over Hondo and Kiu-siu on the 10th, and over Hondo on the 11th.

Number xlv appeared in Tsugaru Strait, between Yesso and Hondo, on the 13th, with pressure 29.80 (756.9), and disappeared to the northeastward on that date. Number xlvi developed off the western coast of North America in about N. 55°, W. 138° on the 13th, with pressure about 29.40 (746.7), and moved eastward to the vicinity of Cordova by the 14th, with pressure 29.46 (748.3). During this date the depression passed into the interior to the eastward.

Number xlvii first appeared over Kodiak Island, off the southeastern coast of the Alaskan Peninsula, on the 17th, with pressure 29.48 (748.8), whence it moved eastward to Sitka by the 18th, with pressure 29.46 (748.3), and disappeared to the eastward.

Number xlviii is first traced in the Yellow Sea on the 19th, whence it moved north of east over Corea into the Sea of Japan by the 20th, accompanied by general rains over the Japanese Islands. During the next twenty-four hours it moved rapidly northeastward to the Gulf of Tartary, where it developed into an area of low pressure which remained about stationary over the southwest portion of the Sea of Okhotsk from the 21st to 25th, inclusive. Number xlix first appeared off the southwest coast of Yesso on the 28th, with pressure 29.40 (746.7), rain and fresh gales over the Japanese Islands. During this date the depression passed northeastward beyond the region from which reports were received.

Two additional areas of low pressure are located on the chart. One was central over the ocean southeast of the Alaskan Peninsula from the 4th to 8th, inclusive; the other was situated over the ocean east of Kamchatka from the 14th to 17th, inclusive.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 36 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◉ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

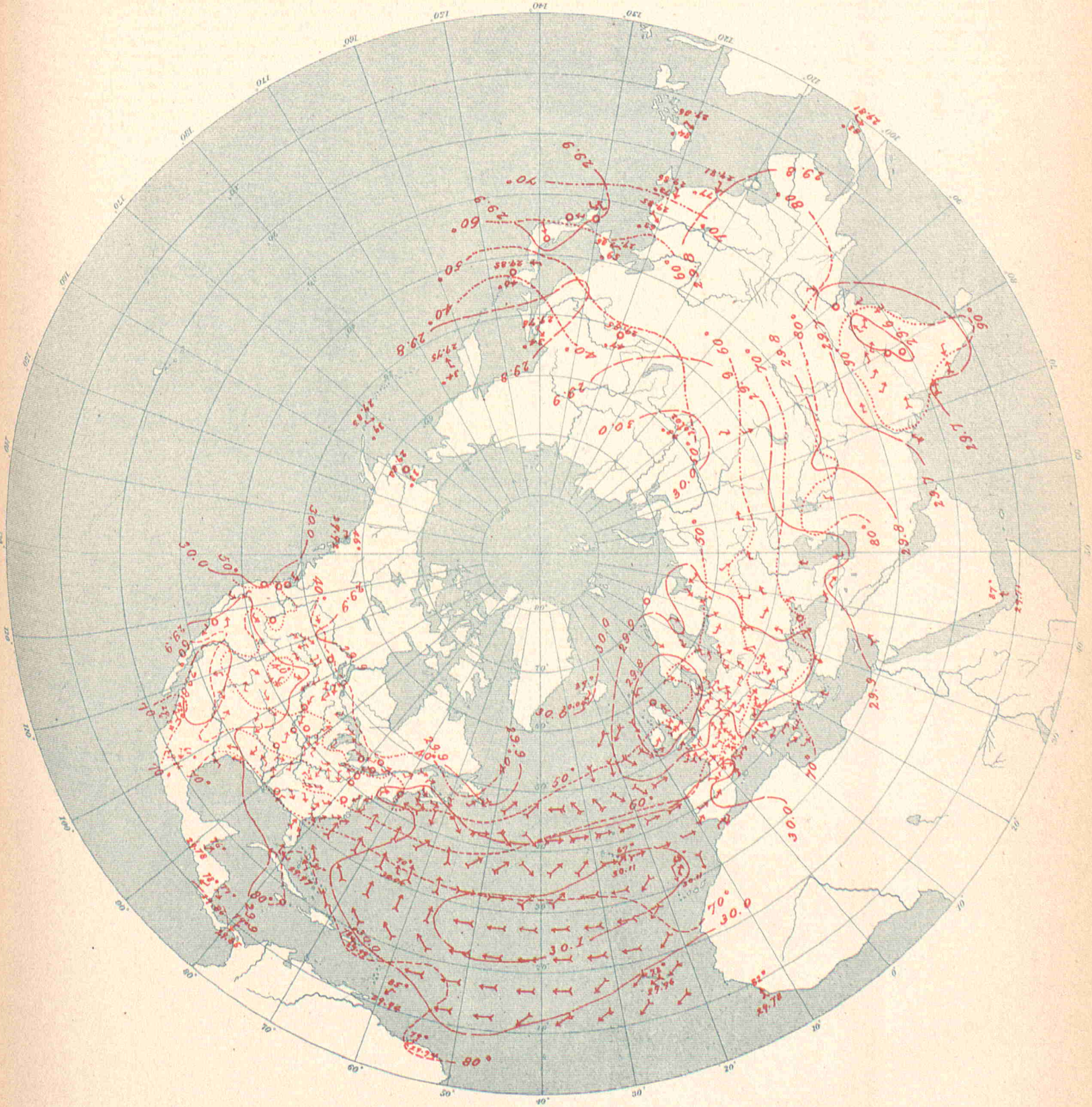
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. May, 1885. Isobars, Isotherms, and Winds.

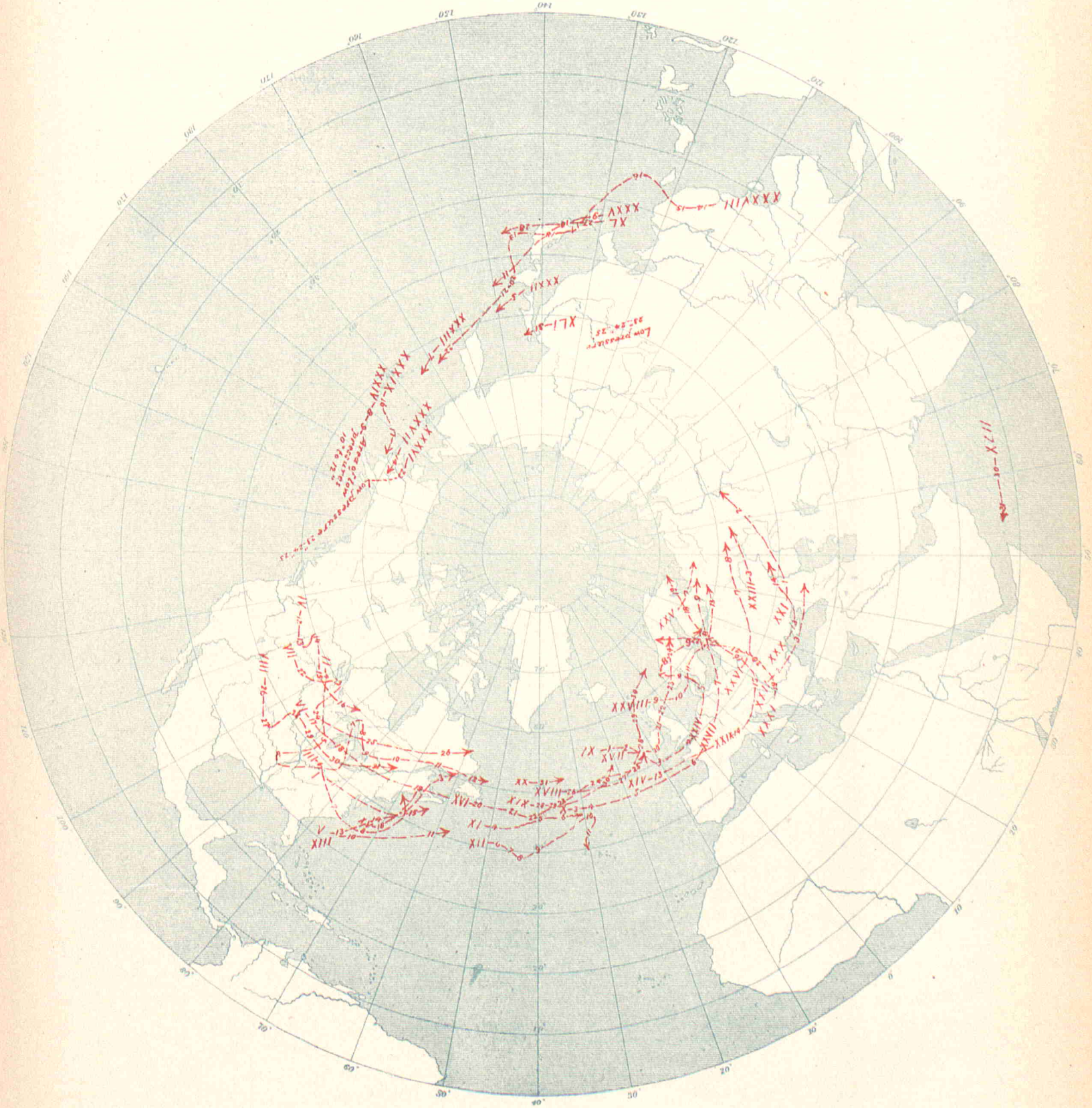


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. May, 1885. Tracks of Areas of Low Pressure.

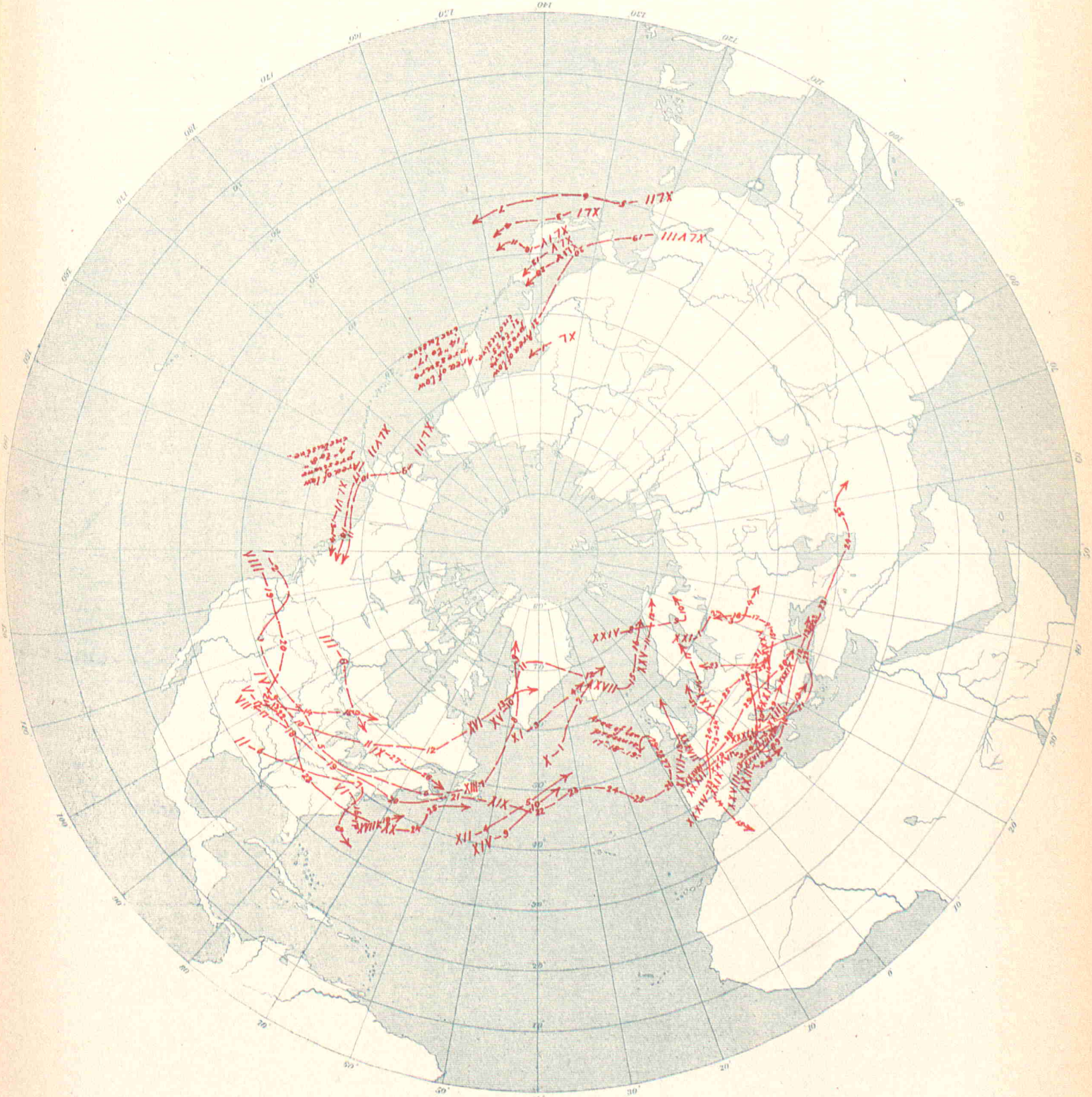


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. April, 1883. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May, 1885—Continued.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—*Con.*	
Am. Chalmetto	Capt. Robert B. Quick.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Chester	H. Condron.
Am. City of Puebla	John Deakin.
Br. City of Richmond	A. W. Lewis.
Am. Colon	Chas. C. Lima.
Crescent City	Jas. L. Lockwood.
Ger. Elder	H. Helmers.
Br. Elysia	James Brown.
Ger. Ems	Ch. Leist.
Br. Gallia	M. Murphy.
Dan. Geiser	F. V. Schierbeck.
Br. Ivanhoe	John Cameron.
Dtch. Leerdam	P. Stirendregt.
Ger. Lessing	B. Voss.
Belg. Nederland	A. J. Griffin.
Dtch. P. Caland	T. H. Boujer.
Belg. Pennland	R. Weyer.
Br. Republic	P. J. Irving.
Belg. Rhynland	J. C. Jamison.
Am. San Marcos	Ch. off. A. B. Connor.
Saratoga	Capt. John McIntosh.
Dtch. Schiedam	J. de Harnecourt.
Br. State of Nebraska	A. G. Brace.
Fr. St. Laurent	M. de Jousselin.
Belg. Switzerland	H. Buschmann.
Dtch. W. A. Scholten	G. Bakker.
Belg. Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Br. Wisconsin	Capt. Edw. Bentley.
Dtch. Zaandam	E. M. Chevalier.
SAILING VESSELS.	
Am. schr. Abbie H. Gheen	W. W. Gheen.
Br. bg. Achsah	A. M. Shaw.
bk. Ada Peard	N. Hocken.
Ger. sp. Agra	A. Högemann.
Am. sp. A. J. Fuller	Theo. P. Colcord.
bk. Albemarle	W. H. Forbes.
Nor. bk. Alpha	O. C. Grönn.
Am. schr. Annie R. Lewis	L. L. Lewis.
It. bk. Angela Schiaffino	E. Schiaffino.
Am. bg. Arcot	J. W. Cates.
Nor. sp. Ariel	F. Schwings.
Br. bk. Artisan	J. Dwyer.
Ger. bk. Betty	S. Wohlmuth.
Br. Bonny Doon	J. S. Cole.
Childwall	T. O. Watson.
Ger. sp. Cleomene	H. Mays.
Br. sp. Columbus	B. Sanermilch.
Br. bk. Corisande	Daniel Thoms.
Ger. sp. Derby	B. Fortmann.
sp. Dora	H. Myer
Am. schr. Florence Rogers	Jas. S. F. McLeod.
Br. bk. Francesco Gargnilo	John McDonald.

Name of vessel.	Captain.
SAILING VESSELS—*Continued.*	
Am. Gamallol	Capt. C. S. Powell.
Am. schr. George W. Lochner	J. C. Wiltbank.
Nor. bk. Haabet	K. Olsen.
Ger. sp. Hedwig	Th. Minssen.
Am. Henry Villard	F. B. Perkins.
Br. sp. Hermon	F. N. Marvin.
Ger. bk. Ida	W. Schneider.
Am. bk. Idaho	W. S. Richardson.
Br. sp. Iolanthe	Geo. Scott.
Am. sc. James H Gordon	W. Lawrence.
schr. James Slater	J. L. Tooker.
Br. bg. Kenilworth	P. Doig.
Ger. bk. Leocadia	John Stohff.
Am Levanter	A. F Vesper.
bg. L. F. Munson	Jas. A. Smith.
Br. bg. Lilian	H. F. Schive.
Ger. bg. Lina	J. Witte
Am. L. & W. Armstrong	A. Alexander.
Am. sp. Magellan	John W. Strout.
schr. Maggie Abbott	D. C. McIntosh.
bg. Mary Fink	Daniel B. Darrah.
schr. Mary Nowell	Wm. M. Lank.
schr. Maud Snare	E. W. Snare.
bk. Mohican	Benj. F. Berry.
schr. Nelson Bartlett	Samuel Watts.
Nor. bk. Nordcap	E. Salvesen.
Am. bkn. Payson Tucker	Chas. Brown.
Nor. Qvos	Gunder Olsen.
Br. bk River Ganges	Thos. Nalle.
Rosebud	John Collie.
Sarah Doe	B. S. Merryman.
Am. schr. Sarah D. J. Rawson	Thos. D. French.
bkt. Spotless	Chas E. Myrick.
schr. Stephen Bennett	William Douglas.
Br. sp. Stephen D. Horton	J. Spicer.
sp. St David	W. W Frost.
Am. bk. Tillie Baker	J. H. Carty.
bk. Templar	R Roberts
Nor. bk. Tros	Severin Brager.
Br. bk. Tuck Sing	G. N Ryder.
Ger. sp. Union	H Fokken.
Walter L. Plummer	V. C. Plummer.
Ger. bk. Western Chief	F Sander.
Br. Winifred	N. P. Dutton.
BRITISH NAVAL.	
H. M. S. Alexandra	Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Agamemnon	Long.
H. M. S. Boadicea	E. J. Church.
H. M. S. Briton	Lloyd.
H. M. S. Cleopatra	H. U. Hippisley.
H. M. S. Champion	A. T. Powlett.
H. M. Dockyard, Bermuda	Grant.
H. M. S. Dreadnaught	Bedford.
H. M. S. Dolphin	Eardley-Willmott.

Name of vessel.	Captain.
BRITISH NAVAL—*Continued.*	
H. M. S. Espelgle	Capt. C. A. G. Bridge.
H. M. S. Flying Fish	MacLear.
H. M. S. Heroine	F. R. Blackburne.
H. M. S. Lark	T. F. Pullen.
H. M. S. Nelson	A. Lake.
H. M. S. Neptune	L. F. Jones, A.D.C.
H. M. S. Orontes	Theobald.
H. M. S. Opal	A. T. Brooke.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Rambler	Hon. F.C.P. Vereker
H. M. S. Superb	A. F. Cleveland.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Turquoise	Woodward.
SWEDISH NAVAL.	
H. S. M. S. Vanadis	Otto Lagerberg.
H. S. M. S. Saga	A. Meister.
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlanden	
Leeuwarden	
Prins Hendrick der Nederlanden	
UNITED STATES NAVAL.	
Navy Yard, Pensacola	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	Geo R Durand.
U. S. S. Enterprise	A. S. Basker.
U. S. S. Galena	T. F. Kane.
U. S. S. Hartford	G. H. Perkins.
U. S. S. Independence	Fred Rodgers.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	Chas Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsley.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May. 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I.R.Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W.I.	Sgt. G. Beater.
Chatham, School M. E	W. Skipper, R.E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	Corp'l H. Keene, A. H. C.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B.	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B.	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B.	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B.	Prof. Harrison.
Grand Manan, N. B.	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T.	John Ewart.
Minnedosa, N. W. T.	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B.	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S.	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F.	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Frére Eugene Marié.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Pollpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Théirot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantior.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Lô, Normal School	M. Delaplanche, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Yamazaki.
Hiroshima	Y. Okamoto.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Nemuro	A. Shibuya.
Niigata	T. Sato.
Nobiru	H. Yoshino and Nanita.
Numadzu	T. Ohgi.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura.
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	C. Camina & I T Guerrero.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjesver	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sselliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Telch, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W.I.	Enrique Gadea, Ch't Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JUNE, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
AUGUST, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
City of Rome	R. D. Munro.
Columbia	Robt Thos. Garvie.
Devonia	Hugh Young.
Elysia	James Brown.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Alvo	David Williams.
Span. Andes	A. de Amezaga.
Athos	Horatio Low.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. T. Rogers.
CANADA SHIPPING Co.	
Br. s. s. Lake Nepigen	M. L. Tranmar.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Bothnia	T. Roberts.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Frank.
Europa	L. A. Kessal.
India	I. I. von Holdt.
FURNESS LINE.	
Br. s. s. Ripon City	Ch. Offi. J. Mansfield.
Stockholm City	Capt. K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Warwick	P. F. Lobbett.
GUION LINE.	
Br. s. s. Wyoming	C. L. Rigby.
Wisconsin	Edward Bentley.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.

Name of vessel.	Captain.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Capt. Fred Graham.
Dalton	J. Russell.
Donati	John P. Bevis.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas Clark.
Sirius	W. H. Stapledon.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	W. Cochrane.
Greece	Thos. Foote.
Holland	Wm. Tyson.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Diliberto.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	R. Ringk.
Eider	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	O. Helmbruch.
Habsburg	Fr. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	R. Bussius.
Nurnberg	A. Jaeger.
Rhein	Th. Jüngst.
Salier	C. Wiegand.
Strassburg	H. Heincke.
Werra	J. Barre.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	J. Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Geo. W. Elder	H. S. Ackley.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Australia	R. C. Ghest.

Name of vessel.	Captain.
PACIFIC MAIL S. S. Co.—*Continued.*	
Am. City of New York	Capt. R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	W. B. Seabury.
Granada	M. Connolly.
San Blas	T. Chapman.
San Jose	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sliorendregt.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. J. Vis.
Zaandam	D' Hamecourt.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Gaudiana	C. W. Hanslip.
Minho	Walter Chapman.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE CROSS LINE.	
Dtch. s. s. De Ruyter	J. J. Brarens.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry.
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	Wm. Abbott.
Marengo	J. H. Malet.
Otranto	F. Kerr.
Rosario	Lieut. Rogers, R.N.R.
WINSOR LINE.	
Am. s. s. Norman	Capt. H. W. Goggins.
Saxon	S. W. Snow.
MISCELLANEOUS.	
Ger. s. s. Brutus	J. A. Voege.
Br. s. s. Camden	S. R. Chandler.
Castleford	C. Gray.
Edith Godden	John H. Bennett.
Effective	H. S. Mitchelson.
Halley	H. Hammond.
Kairos	Thos. Liddle.
Ivanhoe	John Cameron.
Lord Lansdowne	C. H. Baskfill.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JUNE, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
AUGUST, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JUNE, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	130	40	30.09	764.3	30.22	767.6	49.6	9.8	82	3	4	3	5	4	3	.....	4	4	6395	10292	6	3.24	82.3
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.760	755.9	29.950	760.7	643.5	60.4	92c	04	8	3	6	3	.....	.....	1	3	.....	.....	6	1.74	44.2
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.02	762.5	30.10	764.5	47.1	8.4	86	9	4	5	6	.....	2	2	2	.....	.....	.....	4	1.73	43.9
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.45	747.9	29.97	761.3	75.0	23.9	50	4	2	.....	3	1	7	6	7	.....	.....	.....	4	2.02	51.3
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.23	742.5	29.98	761.6	71.6	22.0	60	6	6	4	3	.....	1	6	4	.....	.....	.....	6	2.31	58.6
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.08	738.6	29.92	760.0	66.9	19.4	76	6	.....	.....	.....	11	.....	.....	.....	13	.....	.....	5	4.08	103.7
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.75	730.3	29.96	761.0	70.9	21.6	72	.....	7	.....	6	8	3	3	3	.....	.....	.....	4	3.97	100.9
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.54	724.8	29.87	758.8	75.2	24.0	54	1	8	3	1	4	7	4	2	.....	.....	.....	6	10.39	263.9
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.65	727 8	29.95	760.8	72.1	22.3	61	1	2	5	2	.....	.....	6	12	2	.....	.....	4	2.23	56.6
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.97	735.8	29.93	760.1	72.5	22.5	54	4	2	5	11	1	3	.....	4	.....	.....	.....	4	2.02	51.4
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.86	758.4	29.97	761.2	76.5	24.7	56	1	3	9	4	.....	8	3	2	.....	.....	.....	2	1.14	29.0
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.40	746.7	29.84	757.9	78.6	25.9	55	12	4	5	1	1	4	1	2	.....	.....	.....	2	1.80	45.6
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.63	752 6	29.90	759.4	77.5	25.3	61	8	4	1	2	5	1	2	1	6	.....	.....	5	2.42	61.4
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.89	759.1	29.98	761.6	75.9	24.4	56	.....	3	2	4	.....	1	2	7	11	.....	.....	3	3.60	91.4
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.28	743.7	29.98	761.6	73.9	23.3	49	5	8	3	.....	2	6	3	3	.....	.....	.....	5	0.91	23.1
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	30.02	762.5	30.20	767.1	69.8	21.0	78	6	16	1	1	2	1	1	2	.....	.....	.....	6	4.35	110.4
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.89	759.2	30.01	762.2	56.3	13.5	57	1	8	1	4	5	7	3	1	.....	.....	.....	6	1.12	28.4
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	29.84	757.9	30.07	763.8	59.2	15.1	70	1	6	4	8	.....	5	.....	6	.....	.....	.....	5	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.47	748.5	30.03	762.5	59.6	15.3	65	2	3	6	8	1	7	1	2	.....	.....	.....	6	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.63	752.6	30.05	763 3	60.2	15.7	62	1	2	7	4	2	2	3	9	.....	.....	.....	6	2.79	70.9
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	30.02	762.5	29.98	761.5	83.7	28.7	52	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	4	.....	.....
Chatham *a*	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.89	759.2	30.06	763.5	64.5	18.1	68	4	.....	5	.....	10	1	2	3	4	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.87	758.7	30.07	763.8	59.4	15.2	76	4	5	.....	5	1	11	3	1	.....	.....	.....	5	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.76	705.1	30.02	762 5	74.6	23.7	32	4	2	.....	.....	5	3	8	8	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.61	752.1	29.76	755 9	82.0	27.8	91	9	.....	3	3	6	2	7	.....	.....	.....	.....	.....	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	30.00	762.0	30.05	763.3	59.5	15 3	78	5	2	5	10	1	2	2	3	.....	.....	.....	5	0.50	12.7
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.04	763.0	30.08	764.0	69.1	20.6	96	2	4	5	7	.....	.....	.....	12	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.86	758.4	30.05	763.3	66.3	19.1	59	4	2	.....	8	5	.....	4	7	.....	.....	.....	5	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.77	756.1	30.07	763.8	60.5	15.8	78	3	1	3	4	3	2	2	12	.....	.....	.....	5	0.99	25.1
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.01	762.2	30.06	763.5	63.4	17.4	60	7	1	2	8	4	.....	1	7	.....	.....	.....	5	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.78	756.4	30.05	763.3	63.6	17.6	61	1	4	2	11	.....	.....	1	11	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.89	759.2	29.95	760.7	73.2	22.9	76	.....	13	.....	.....	.....	1	2	9	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.06	763.5	30.06	763.5	83.0	28.3	79	1	.....	.....	2	6	18	2	1	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.82	757.4	30.07	763.8	63.6	17.6	62	6	2	4	6	3	.....	2	7	.....	.....	.....	6	.....	.....
Plymouth *a*	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.97	761.2	30.06	763.5	63.4	17.4	70	2	2	1	2	6	6	3	6	1	.....	.....	6	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.79	756.7	29.84	757.9	78.8	26.0	52	3	.....	1	12	.....	.....	.....	14	.....	.....	.....	3	.....	.....
Silloth Rectory	N. 54 52	W. 3 22	11.47 a.m.	28	9	29.99	761.7	30.06	763.5	61.7	16.5	72	4	.....	12	8	.....	.....	5	.....	1	.....	.....	6	1.36	34.5
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.07	763.8	60.5	15.8	62	2	1	7	9	1	2	1	7	.....	.....	.....	6	3.94	100.1
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	30.07	763.8	30.11	764.8	58.6	14.8	73	9	4	3	5	1	6	.....	2	.....	.....	.....	7	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.62	752.3	29.98	761.5	75.3	24.1	59	2	11	5	.....	1	7	2	2	.....	4832	7782	3	0	0
Canadian.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.81	757.2	29.86	758.4	56.5	13.6	.....	.....	1	3	12	.....	1	3	2	8	.....	.....	7	1.79	45.5
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.83	757.7	29.87	758.7	56.0	13.3	78	2	2	4	8	5	1	2	1	5	4920	7918	6	2.63	66.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.80	756.9	29.86	758.4	54.4	12.4	85	2	2	3	15	4	1	1	2	.....	4387	7050	8	4.42	112.3
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.69	754.0	29.88	758 8	57.8	14.3	84	1	3	20	3	.....	.....	.....	3	.....	.....	.....	5	4.72	119.9
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.83	757.6	29.89	759.2	55.7	13.2	.....	d	.....	:5	.....	.....	8	.....	3	.....	.....	.....	6	4.53	115.1
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.81	757.2	29.84	757.9	50.7	10.4	83	3	6	6	4	2	.....	.....	6	3	.....	.....	7	7.03	178.6
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.14	740.1	29.96	761.0	51.3	10.7	90	6	4	3	3	2	3	3	2	4	6698	10789	6	3.05	77.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.84	758.1	29.91	759.7	55.6	13.1	72	1	12	1	2	3	7	1	2	1	4726	7606	6	3.33	84.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.86	758.4	29.91	759.7	55.4	13.0	72	3	4	3	7	3	1	1	3	5	10693	17102	4	3.76	95.5
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.92	734.5	30.01	762.3	55.1	12.8	92	2	9	2	2	2	2	.....	11	.....	.....	.....	5	3.44	87.4
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.81	757.2	29.94	760 5	56.7	13.7	78	4	5	6	6	6	1	2	.....	.....	.....	.....	5	2.74	69.6
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.52	749.8	29.94	760.5	62.7	17.1	84	1	.....	2	24	.....	.....	3	.....	.....	.....	.....	5	2.94	74.7
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.62	752.3	29.95	760.7	55.4	13.0	83	2	4	9	11	2	.....	.....	2	.....	4890	7870	5	3.97	100.8
LittleGlaceBay *a*	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.81	757.1	29.85	758.1	55.8	13.2	84	1	2	.....	20	1	3	1	1	.....	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.13	739.9	30.02	762.6	55.5	13.1	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4.86	123.4
Medicine Hat *a*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.62	701.5	29.86	758.4	52.4	11.3	77	1	2	2	4	2	2	1	2	14	5256	8459	3	3.51	89.2
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.16	715 3	29.96	761.0	49.4	9.7	85	3	2	1	3	.....	4	7	10	7080	11394	5	3.01	76.4
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.69	754.1	29.89	759 2	59.7	15.4	73	4	1	6	14	4	.....	.....	1	.....	.....	.....	6	3.61	91.7
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.66	753.4	29.90	759.5	58.3	14.6	82	4	5	5	12	1	.....	1	2	.....	5450	8771	5	2.62	66.5
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.28	743.7	29.96	761.0	55.2	12.9	82	2	.....	9	5	4	6	3	.....	1	6205	9986	6	3.04	77.2
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.23	742.4	29.95	760.6	57.2	14.0	87	3	4	4	7	1	.....	1	1	9	.....	.....	5	3.33	84.6
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.25	742.9	29.96	761.0	49.2	9.6	83	3	2	3	3	.....	.....	.....	2	17	2959	4762	2	3.28	83.3
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.32	744.7	30.00	762.0	57.5	14.2	93	.....	5	3	3	1	.....	.....	1	17	2870	4619	5	2.54	64.5
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.36	745.7	30.00	762.0	56.8	13.8	86	1	4	9	3	.....	3	3	2	5	.....	.....	4	3.52	89.4
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.71	703.8	29.96	761.0	50.2	10.1	83	.....	4	1	3	6	2	3	3	8	6277	10101	4	2.17	55.1
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.52	749.8	29.87	758.7	58.3	14.6	82	.....	1	7	8	2	.....	1	7	4	.....	.....	7	3.39	86.1
Rockliffe *f*	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.46	748.3	29.92	760.0	52.7	11.5	83	.....	11	3	.....	1	1	4	3	7	.....	.....	6	2.21	56.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.83	757.7	29.88	758.9	52.5	11.4	81	2	7	1	4	2	4	3	1	6	.....	.....	7	3.35	85.1
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.77	756.2	29.91	759.8	53.8	12.1	82	2	3	3	11	14	4	1	2	.....	.....	.....	6	3.62	91.9
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.88	759.0	50.9	10.5	.....	1	8	1	11	1	4	2	.....	.....	.....	.....	.....	5.67	144.0
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.28	743.7	29.99	761.7	54.0	12.2	83	2	2	8	3	8	.....	1	3	3	5668	9121	4	1.99	50.5
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.75	730.2	30.01	762.2	57.8	14.3	80	.....	1	7	6	6	6	1	3	3	3528	5675	4	4.61	117.1
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.84	757.9	29.90	759.4	54.5	12.5	79	2	.....	5	4	14	.....	1	3	1	8146	13110	6	3.64	92.5
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.61	752.1	30.00	762.0	57.1	13.9	77	1	5	7	4	1	.....	3	4	5	6930	11153	5	4.21	106.9
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.97	735.7	30.01	762.3	58.1	14.5	81	1	4	7	10	4	2	.....	1	1	.....	.....	5	3.93	99.8
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.87	758.7	29.97	761.2	54.4	12.4	87	1	5	5	6	9	.....	3	1	.....	.....	.....	5	1.89	48.0
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.75	755.6	29.94	760.5	54.0	12.2	78	1	.....	8	7	1	10	.....	3	.....	.....	.....	4	3.56	90.4
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.18	766.6	30.18	766.6	66.0	18.9	91	.....	3	15	3	.....	.....	3	.....	6	.....	.....	2	0.55	14.0
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.07	763.8	.....	.....	61.6	16.4	64	.....	4	12	1	.....	2	.....	11	.....	.....	.....	4	6.11	155.2
Springbok *e*	S. 29 45	E. 17 43	1.11 p.m.	?	?	27.92	709.2	.....	.....	61.3	16.3	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.82	46.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
CHINESE.	° ′	° ′																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.66	753.4	29.71	754.6	79.7	26.5	86	.....	2	.....	2	8	5	10	2	1	.....	.....	8	31.36	796.5
Sub-Series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.75	755.6	29.73	755.1	69.3	20.7	93	3	2	2	.....	3	6	6	8	.....	.....	.....	8	11.24	285.6
DANISH.																												
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.89	759.2	29.97	761.2	62.4	16.9	71	5	4	6	1	9	2	.....	3	.....	.....	.....	6	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.94	760.4	29.99	761.7	60.3	15.7	69	.....	8	8	8	4	.....	2	.....	.....	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.63	752.7	29.73	755.1	44.4	6.9	80	3	1	3	4	3	6	2	6	2	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.78	756.3	29.84	757.9	49.5	9.7	78	3	1	7	11	1	1	1	1	4	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.84	757.8	29.96	761.0	56.5	13.6	73	.....	9	10	3	6	.....	1	1	.....	.....	.....	4	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.38	746.2	30.02	762.4	73.2	22.9	65	3	4	5	1	2	14	1	.....	.....	.....	.....	5	2.98	75.8
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.52	749.8	30.01	762.2	68.7	20.4	66	1	.....	.....	8	5	1	.....	15	.....	.....	.....	.....	0.71	18.0
Arras	N. 50 18	E. 2 46	0.11 p.m.	223	68	29.81	757.1	30.06	763.4	68.7	20.4	58	1	2	13	3	.....	2	5	4	.....	.....	.....	4	1.85	47.0
Avignon	N. 43 57	E. 4 49	0.19 p.m.	66	20	29.92	760.0	30.00	762.0	73.4	23.0	50	7	3	3	4	12	.....	1	.....	.....	.....	.....	2	3.68	93.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.47	748.6	30.02	762.5	73.0	22.8	55	1	4	1	5	4	6	3	6	.....	.....	.....	6	2.58	65.6
Beauvais *a*	N. 49 26	E. 2 05	0.08 p.m.	246	75	.....	.....	.....	.....	71.1	21.7	61	11	8	6	2	.....	.....	.....	2	.....	.....	.....	.....	0.86	21.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.10	739.0	29.95	760.8	76.3	24.6	39	.....	2	1	8	9	1	1	8	.....	.....	.....	.....	3.42	87.0
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.74	755.5	29.99	761.7	72.3	22.4	60	3	4	2	4	3	7	4	3	.....	.....	.....	4	4.78	121.3
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.49	749.0	30.03	762.7	74.1	23.4	54	4	4	8	1	3	.....	4	6	.....	.....	.....	5	1.56	39.7
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.83	757.7	30.08	763.9	66.2	19.0	73	3	.....	2	9	1	1	.....	12	2	.....	.....	6	0.58	14.8
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	.....	.....	.....	.....	68.4	20.2	66	11	7	2	4	3	.....	1	2	.....	.....	.....	.....	3.87	98.3
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	.....	.....	.....	.....	73.0	22.8	54	1	1	3	4	13	2	1	5	.....	.....	.....	2	1.06	27.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.47	748.4	30.04	762.9	73.2	22.9	53	2	1	6	4	7	.....	6	4	.....	.....	.....	3	0.96	24.3
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.67	728.1	29.97	761.2	73.9	23.3	46	6	4	1	1	5	2	6	5	.....	.....	.....	5	2.68	68.2
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.18	741.2	30.00	762.1	75.9	24.4	47	3	2	2	5	3	6	3	5	1	.....	.....	4	1.18	29.9
Commercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.19	741.5	30.06	763.5	70.3	21.3	58	3	.....	11	5	1	.....	.....	5	5	.....	.....	4	2.92	74.2
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.50	698.6	29.96	761.0	72.9	22.7	45	.....	1	.....	8	.....	.....	.....	8	.....	.....	.....	4	1.01	30.8
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.89	733.7	29.97	761.2	75.4	24.1	51	1	.....	.....	.....	.....	7	14	8	13	.....	.....	3	1.02	25.9
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.32	744.8	30.08	764.1	74.5	23.6	61	3	11	5	3	.....	.....	.....	1	7	.....	.....	3	6.02	152.9
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.43	722.0	30.00	762.0	67.6	19.8	66	7	4	2	6	.....	2	1	5	3	.....	.....	.....	1.52	38.6
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.77	756.2	30.06	763.5	67.5	19.7	71	7	7	1	.....	7	2	2	4	.....	.....	.....	.....	2.17	55.2
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.46	748.2	30.04	763.1	74.1	23.4	60	3	.....	11	5	2	1	4	4	.....	.....	.....	.....	9.80	248.8
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.95	760.6	30.06	763.5	69.4	20.8	62	4	1	5	1	6	5	1	7	.....	.....	.....	5	0.75	19.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.97	735.7	29.98	761.5	75.6	24.2	46	6	2	2	.....	7	7	3	3	.....	.....	.....	5	1.49	37.8
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.73	755.1	30.04	762.9	70.5	21.4	71	4	2	3	2	5	3	3	8	.....	.....	.....	.....	3.99	101.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.73	755.1	30.00	762.0	74.7	23.7	54	.....	3	9	7	5	8	1	.....	.....	.....	.....	.....	3.11	79.1
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.93	633.2	29.77	756.2	59.0	15.0	57	3	.....	1	3	3	8	12	.....	.....	.....	.....	4	6.43	163.3
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.86	758.4	29.98	761.6	75.2	24.0	62	6	.....	.....	.....	2	8	.....	14	.....	.....	.....	2	1.19	30.2
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.96	608.6	.....	.....	.....	.....	.....	1	5	.....	1	7	13	.....	.....	.....	.....	.....	.....	3.92	99.7
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.24	742.8	30.02	762.5	73.6	23.1	52	1	.....	4	7	6	2	4	6	.....	.....	.....	.....	3.03	77.0
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.89	759.3	30.05	763.3	71.1	21.7	66	7	3	3	5	.....	4	4	4	.....	.....	.....	7	3.45	87.6
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.79	756.7	.....	.....	75.7	24.3	69	5	5	1	.....	1	3	5	1	9	.....	.....	3	2.05	52.1
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.89	759.3	30.00	762.1	72.7	22.6	59	1	5	.....	.....	.....	2	1	11	9	1	.....	4	2.80	71.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.30	541.1	.....	.....	43.2	6.2	.....	.....	1	2	4	1	1	2	3	16	.....	.....	.....	10.53	267.4
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.97	735.9	29.98	761.5	76.6	24.8	44	11	.....	1	.....	12	.....	2	4	.....	.....	.....	.....	1.90	48.2
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.23	640.8	.....	.....	53.1	11.7	75	1	2	3	5	2	4	6	7	.....	.....	.....	6	3.11	78.9
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.96	761.0	30.00	762.1	74.7	23.7	71	2	2	6	5	5	2	3	8	.....	.....	.....	3	2.68	68.2
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.70	754.4	29.98	761.4	73.0	22.8	69	2	5	4	5	1	7	.....	6	.....	.....	.....	6	3.02	76.7
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.87	708.0	29.97	761.3	71.8	22.1	54	3	3	.....	1	4	11	2	2	4	.....	.....	.....	2.29	58.1
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.00	761.9	30.06	763.4	70.2	21.2	63	1	5	11	3	.....	4	6	.....	.....	.....	.....	4	2.78	70.6
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.87	758.7	30.04	762.9	72.1	22.3	50	9	2	5	5	2	3	.....	3	1	.....	.....	4	2.69	68.4
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.33	745.0	30.06	763.4	74.3	23.5	60	4	4	3	2	.....	13	3	.....	.....	.....	.....	5	3.05	77.5
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.84	757.8	30.00	762.1	73.4	23.0	55	4	1	2	3	4	3	6	7	.....	.....	.....	.....	5.03	127.8
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.57	751.1	30.02	762.4	70.0	21.1	51	3	.....	.....	4	.....	2	6	15	.....	.....	.....	5	1.27	32.2
Sub-Series.																												
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.87	758.8	30.02	762.6	72.5	22.5	66	1	5	8	3	.....	3	6	4	.....	.....	.....	6	7.67	194.8
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.60	726.3	30.00	761.9	72.7	22.6	40	.....	6	4	1	1	3	4	8	3	.....	.....	3	0.83	21.1
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.16	740.6	30.01	762.2	73.2	22.9	74	4	5	8	2	1	2	3	4	1	.....	.....	4	1.06	26.9
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.84	757.8	30.01	762.2	73.2	22.9	51	1	10	8	2	3	1	3	2	.....	.....	.....	4	2.26	57.5
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.48	748.7	30.04	762.9	72.0	22.2	43	2	10	5	1	4	4	3	1	.....	.....	.....	5	1.76	44.8
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.58	751.3	30.02	762.5	73.0	22.8	40	4	2	1	9	2	1	5	6	.....	.....	.....	4	4.72	120.0
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.28	743.7	30.02	762.4	69.1	20.6	54	7	3	3	3	5	1	4	4	.....	.....	.....	6	2.70	68.5
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.63	752.5	30.03	762.7	73.2	22.9	50	4	2	6	8	2	3	2	3	.....	.....	.....	4	3.97	100.8
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.61	726.7	29.98	761.6	71.1	21.7	64	1	1	3	20	1	.....	.....	4	.....	.....	.....	4	2.82	71.5
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.93	760.1	30.02	762.4	65.7	18.7	68	2	9	4	6	2	3	4	.....	.....	.....	.....	5	2.57	65.3
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.96	761.0	30.00	761.9	63.7	17.6	65	6	5	9	5	1	2	.....	2	.....	.....	.....	7	2.06	52.4
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.58	751.4	29.98	761.6	70.7	21.5	59	.....	6	3	8	3	2	3	5	.....	.....	.....	5	2.06	52.4
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.79	756.7	29.97	761.3	72.5	22.5	53	.....	6	10	2	2	3	3	2	2	.....	.....	4	1.50	38.0
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.91	759.7	29.99	761.7	63.0	17.2	71	.....	10	14	1	1	3	.....	1	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.21	716.4	30.07	763.7	71.4	21.9	47	1	8	3	.....	.....	1	4	8	5	.....	.....	4	2.26	57.3
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.92	760.0	29.98	761.5	64.9	18.3	62	6	2	8	3	3	.....	4	4	.....	.....	.....	3	2.23	56.7
Neustadt *a*	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.47	748.5	30.01	762.2	74.7	23.7	54	6	1	7	2	1	1	4	3	4	.....	.....	4	2.48	62.9
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.13	739.9	30.00	762.1	72.9	22.7	34	1	11	3	2	.....	5	1	7	.....	.....	.....	4	1.88	47.8
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.95	760.7	30.00	761.9	63.7	17.6	69	2	4	7	10	1	.....	2	4	.....	.....	.....	4	1.78	45.3
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.51	749.5	29.83	757.7	80.2	26.8	55	7	1	4	6	7	1	.....	4	.....	.....	.....	4	1.12	28.5
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.47	748.5	29.47	748.5	91.4	33.0	62	.....	1	13	14	2	.....	.....	.....	.....	.....	.....	4	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.04	737.7	29.44	747.8	101.1	38.4	31	.....	2	4	17	3	1	1	2	.....	.....	.....	5	1.28	32.5
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.62	752.4	29.60	751.8	85.6	29.8	75	.....	5	16	4	2	2	.....	1	.....	.....	.....	7	4.52	114.8
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.82	706.6	29.58	751.2	83.2	28.4	56	2	3	13	8	2	2	.....	.....	.....	.....	.....	8	0.93	23.6
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.18	690.3	29.63	752.5	75.1	23.9	78	1	.....	1	15	10	2	1	.....	.....	.....	.....	9	4.48	113.8
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.75	730.1	29.38	746.3	102.5	39.2	29	6	3	7	1	1	1	3	1	7	.....	.....	2	0.81	20.6
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.57	725.8	29.39	746.4	97.4	36.3	36	.....	.....	.....	12	.....	4	1	1	12	.....	.....	2	13.03	331.0
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.92	734.4	29.41	746.9	98.9	37.2	40	.....	11	7	7	.....	3	2	.....	.....	.....	.....	5	4.55	115.6
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.52	724.3	29.47	748.6	88.0	31.1	58	.....	3	10	4	2	1	1	2	7	.....	.....	8	9.70	246.4
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.20	716.2	29.47	748.4	84.5	29.2	67	1	1	10	4	1	4	.....	2	7	.....	.....	8	13.71	348.2
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.13	739.9	29.44	747.9	95.3	35.2	48	6	6	2	3	.....	3	4	3	3	.....	.....	5	8.36	212.3
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.14	740.1	29.39	746.4	97.9	36.6	44	.....	7	4	3	.....	.....	3	4	9	.....	.....	4	8.80	223.5
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.28	743.8	29.41	747.0	95.9	35.5	47	2	4	5	.....	.....	1	15	3	.....	.....	.....	4	2.27	57.7
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.52	699.0	29.42	747.1	86.1	30.1	59	5	3	1	4	4	4	6	3	.....	.....	.....	8	14.38	365.2
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.45	748.1	29.47	748.6	89.0	31.7	65	.....	.....	2	6	6	2	.....	.....	14	.....	.....	6	2.57	65.3
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.50	749.4	29.47	748.5	85.6	29.8	76	1	.....	.....	2	12	11	2	1	1	.....	.....	8	11.40	289.6
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.44	747.9	29.51	749.6	82.3	27.9	82	.....	1	1	2	2	3	9	.....	12	.....	.....	6	32.06	814.3
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.53	750.1	29.56	750.9	81.4	27.4	86	.....	.....	1	5	12	10	.....	2	.....	.....	.....	8	16.85	428.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.27	743.4	29.55	750.6	84.0	28.9	81	.....	1	1	14	.....	3	1	9	1	.....	.....	6	4.64	117.9
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.10	713.7	29.43	747.6	95.4	35.2	45	3	11	5	1	.....	.....	1	9	.....	.....	.....	6	4.09	103.9
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28 18	715.8	.....	.....	88.6	31.4	46	.....	1	9	10	1	3	5	1	.....	.....	.....	4	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.47	748.6	29.68	753.8	89.0	31.7	58	2	9	14	2	1	.....	.....	1	.....	.....	.....	9	1.63	41.4
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.50	749.4	29.90	759.4	78.4	25.8	47	.....	.....	1	2	5	7	4	1	10	.....	.....	3	3.80	96.5
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.47	748.4	29.97	761.1	80.1	26.7	40	2	5	2	5	8	5	3	.....	.....	.....	.....	4	0.44	11.3
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.86	758.4	29.97	761.1	77.7	25.4	45	3	2	8	6	2	4	5	.....	.....	.....	.....	3	1.21	30.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																									
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.08	738 6	29.95	760.8	76.6	24.8	51	3	.....	8	3	10	3	2	1	.....	.....	.....	4	3.65	92.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.80	736.8	29.98	761.6	74.3	23.5	58	1	1	1	3	5	18	.....	1	.....	.....	.....	3	2.38	60.5
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.94	760.5	29.99	761.7	73.0	22.8	62	1	5	3	5	1	5	2	9	.....	.....	.....	3	3.89	98.8
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.71	754.7	29.96	761.0	78.1	25.6	41	3	6	1	.....	.....	8	7	5	.....	.....	.....	3	0.46	11.6
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.92	760.0	30.00	762.1	75.2	24.0	56	3	1	2	1	2	6	12	3	.....	.....	.....	3	0.63	15.9
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.78	756.3	29.95	760.6	79.2	26.2	40	8	1	.....	.....	1	14	6	.....	.....	.....	.....	4	0.90	22.9
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.67	753.5	29.91	759.7	75.6	24.2	52	12	4	3	.....	.....	4	3	4	.....	.....	.....	4	2.76	70.2
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.06	738.2	29.93	760.1	75.2	24.0	67	.....	.....	2	7	.....	2	16	3	.....	.....	.....	4	3.26	82.9
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.74	755.4	29.98	761.6	76.5	24.7	51	1	20	5	.....	.....	.....	2	2	.....	.....	.....	3	0.02	0.5
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.86	758.5	29.91	759.6	75.6	24.2	64	4	3	16	6	.....	.....	1	.....	.....	.....	.....	4	0.04	1.0
Sub-Series.																											
Naples *a*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.52	749.8	.....	.....	74.7	23.7	61	.....	.....	4	12	3	.....	3	7	.....	.....	.....	4	1.52	38.7
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.28	566.0	.....	.....	48.2	9.0	51	.....	1	4	6	4	7	5	3	.....	.....	.....	5	2.42	61.4
Valdobbia *a*	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.31	566.7	.....	.....	48.2	9.0	67	2	5	3	3	.....	3	5	8	.....	.....	.....	6	1.40	35.5
JAPANESE.																											
Akita	N. 39 42	E. 140 07	9.20 p.m.	33	10	29.82	757.3	29.84	757.9	61.3	16.3	84	2	5	4	5	.....	1	.....	.....	13	.....	.....	7	1.61	40.8
Awomori	N. 40 51	E. 140 45	9.23 p.m.	33	10	29.80	757.0	29.83	757.7	59.3	15.2	79	11	4	5	2	3	1	.....	1	3	.....	.....	4	0.37	9.2
Hakodate	N. 41 46	E. 140 44	9.23 p.m.	10	3	29.82	757.5	29.82	757.4	54.0	12.2	87	1	3	0	.....	4	.....	4	3	9	5364	8632	5	1.65	42.0
Hamamtsu	N. 34 42	E. 137 43	9.23 p.m.	10	13	29.76	755.8	29.83	757 7	68.6	20.3	93	.....	1	7	2	2	1	7	1	9	.....	.....	8	28.82	731.9
Hiroshima	N. 34 23	E. 132 27	8.50 p.m.	13	4	29.80	757.0	29.79	756.7	70.0	21.1	89	4	1	2	3	8	.....	4	.....	8	2792	4493	9	22.19	563.7
Kanazawa	N. 36 33	E. 136 27	8.45 a.m.	95	29	29.74	755.4	29.82	757.4	65.7	18.7	88	.....	2	2	2	5	.....	6	8	4	3268	5258	8	16.85	428.0
Kago-hima	N. 31 35	E. 130 33	8.42 p.m.	13	4	29.84	755.0	29.82	757.4	72.2	22.3	89	.....	5	7	2	8	1	.....	5	2	.....	.....	8	22.48	570.5
Kioto	N. 35 01	E. 135 46	9.03 p.m.	161	49	29.67	753.6	29.81	757.2	69.9	21.0	85	5	5	.....	4	3	.....	1	3	9	1813	2918	8	24.30	617.3
Kochi	N. 33 33	E. 133 34	8.54 p.m.	20	6	29.83	757.7	29.82	757.4	72.0	22.2	91	1	1	4	1	4	5	8	4	4242	6826	9	24.09	612.0
Miasaki	N. 31 56	E. 131 26	8.46 p.m.	26	8	29.83	757.6	29.82	757.4	72.5	22.5	88	5	.....	12	2	4	.....	7	.....	.....	.....	.....	8	27.28	693.0
Miyako	N. 39 38	E. 141 59	9.28 p.m.	98	30	29.75	755.6	29.85	758.2	56.8	13.7	92	10	.....	6	6	3	1	.....	1	3	1435	2310	5	2.26	57.2
Nagasaki	N. 32 44	E. 129 52	8.39 p.m.	190	58	29.63	752 5	29.79	756.7	69.6	20.9	91	1	.....	.....	16	4	2	2	4	1	4198	6756	9	38.82	985.4
Nemuro	N. 43 20	E. 145 35	9.42 p.m.	43	13	29.79	756.7	29.85	758.2	47.3	8.6	90	7	.....	.....	4	10	3	4	1	1	3746	6028	7	1.26	31.9
Niigata	N. 37 55	E. 139 03	9.16 p.m.	33	10	29.81	757 2	29.83	757.7	63.1	17.3	88	6	.....	.....	4	.....	4	.....	5	11	3505	5641	7	8.74	221.9
Nobiru	N. 38 23	E. 141 11	9 25 p.m.	16	5	29.83	757.6	29.82	757.4	61.9	16.6	90	3	2	1	5	13	1	1	3	5116	8233	6	4.08	103.8
Numadzu	N. 35 06	E. 138 51	9.15 p.m.	30	9	29.82	757.4	29.82	757.4	69.2	20.7	88	3	5	2	7	5	.....	6	1	1	.....	.....	9	30.33	770.4
Osaka	N. 34 41	E. 135 30	9.02 p.m.	46	14	29.79	756.6	29.81	757.2	70.9	21.6	86	2	1	10	5	1	.....	2	8	1	7137	11485	7	26.28	667.4
Sakai	N. 35 33	E. 133 14	8.53 p.m.	7	2	29.82	757.4	29.81	757.2	67.2	19.5	87	7	2	7	.....	.....	1	4	6	3	.....	.....	8	13.84	351.6
Shimonoseki	N. 33 58	E. 130 56	8.44 p.m.	135	41	29.69	753.9	29.80	756.9	67.7	20.0	89	1	1	1	4	1	1	4	5	12	.....	.....	9	19.93	506.4
Tokei	N. 35 41	E. 139 46	9.19 p.m.	69	21	29.78	756.4	29.83	757.7	67.6	19.8	90	3	.....	1	3	12	2	8	1	.....	4993	8035	9	13.02	331.2
Wakayama	N. 34 14	E. 135 09	9.01 p.m.	49	15	29.78	756.4	29.80	757.9	71.5	21.9	87	.....	1	.....	3	6	.....	.....	.....	20	2206	3550	8	23.93	607.6
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.98	761.5	30.11	764.8	72.0	22.2	69	.....	.....	.....	.....	1	14	14	1	.....	.....	.....	6	4.36	110.7
MEXICAN.																											
Leon	N. 21 07	W. 101 36	5.14 a.m.	5902	1799	24.38	619.2	29.94	760.5	62.0	16.7	80	2	7	9	5	6	.....	1	.....	.....	.....	.....	9	2.54	64.5
Mazatlan	N. 23 12	W. 106 17	4.55 a.m.	249	76	29.67	753 5	29.87	758.7	78.3	25.7	81	1	1	1	3	.....	12	8	4	.....	.....	.....	4	0.98	25.0
Guanajuato *a*	N. 21 01	W. 101 10	5.15 a.m.	6762	2061	23.71	602.4	29.87	758.7	66.2	16.2	80	.....	5	2	3	1	1	4	10	1	.....	.....	4	10.27	261.0
Mexico *a*	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.10	586.8	30.06	763.5	55.6	13.1	78	3	2	.....	.....	.....	.....	.....	1	23	.....	.....	6	3.07	78.0
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.47	596.1	30.04	763.0	63.5	17.5	67	3	8	.....	2	.....	.....	.....	5	12	.....	.....	4	9.64	244.4
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.04	763.0	30.06	763.5	64.6	18.1	.....	6	1	7	7	.....	2	1	7	.....	.....	.....	.....	3.27	83.0
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.95	760 8	30.03	762 7	63.3	17.4	.....	13	4	3	3	3	.....	4	.....	.....	.....	.....	.....	0.57	14.5
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.00	762.0	30.02	762.5	59.5	15.3	.....	7	4	2	9	1	.....	2	5	.....	.....	.....	.....	1.06	26.9
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.04	762.9	30.06	763.4	65.8	18.8	.....	5	3	1	7	2	.....	3	7	2	.....	.....	.....	1.16	29.5
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.98	761.5	30.05	763.3	67.6	19.8	.....	8	2	5	4	4	4	.....	3	.....	.....	.....	5	1.34	34.0
Sub-Series.																											
Batavia	S. 6 11	E. 106 50	7.07 p.m.	26	8	.....	.....	29.82	757.5	81.0	27.2	78	2	.....	.....	.....	.....	.....	7	21	.....	.....	.....	4	0.50	12.7
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.85	758.1	29.95	760.7	52.7	11.5	67	1	7	8	3	7	3	.....	.....	1	.....	.....	6	7.61	193.4
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.76	755.9	29.85	758.2	51.3	10.7	68	7	2	3	8	6	1	1	1	.....	.....	.....	7	2.08	52.9
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.69	754.2	29.87	758 8	62.4	16.9	42	2	2	1	4	12	4	3	2	.....	.....	.....	6	1.32	33.5
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.70	754.4	29.78	756.5	45.1	7.3	.....	1	1	4	6	1	.....	4	2	11	.....	.....	8	0.88	22.3
PORTUGUESE.																											
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.08	763.9	30.13	765.3	70.2	21.2	65	.....	.....	.....	22	1	3	.....	.....	4	.....	.....	8	0	0
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.71	754.5	30.02	762.4	69.8	21.0	60	3	8	4	9	4	.....	2	.....	.....	.....	.....	4	0.96	24.5
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.22	767.7	30.28	769.0	70.9	21.6	69	11	.....	3	3	1	.....	.....	8	4	.....	.....	4	0.69	17.5
Saint Vincent *b*	N. 16 37	W. 25 02	10.20 a.m.	33	10	30.03	762.8	30.00	762.0	75.7	24.3	69	3	.....	.....	.....	.....	.....	9	16	.....	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.11	714.1	29.87	758.6	81.0	27.2	60	1	1	6	7	5	.....	.....	.....	10	.....	.....	5	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.34	643.5	29.98	761.4	55.9	13.3	74	1	6	5	1	.....	5	12	.....	.....	.....	.....	6	7.21	185.1
RUSSIAN																											
Akmolinski *b*	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.58	725.8	29.62	752.3	70.2	21.2	45	1	4	6	5	.....	2	3	4	1	.....	.....	6	0.97	24.7
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.74	755.4	29.81	757.2	56.8	13.8	61	.....	7	6	1	5	4	3	3	1	.....	.....	7	1.15	29.1
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	29.89	759.3	29.82	757.4	79.5	26.4	40	3	3	2	3	4	7	6	2	.....	.....	.....	6	0.47	11.9
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	29.89	759 2	29.83	757.7	76.3	24.6	61	12	.....	.....	.....	1	14	.....	.....	3	.....	.....	3	0.29	10.0
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.24	742.7	29.73	755.1	74.5	23.6	43	.....	5	1	9	5	2	1	5	2	.....	.....	5	1.22	31.0
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.62	752.3	29.89	759.2	65.5	18.6	52	2	3	6	6	3	5	2	1	.....	.....	.....	7	1.29	32.7
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.73	729.8	29.70	754.4	62.2	16.8	59	3	7	5	5	2	1	3	.....	4	.....	.....	8	3.20	81.3
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.48	718.7	29.91	759.7	80.6	27.0	38	3	10	4	2	.....	3	4	2	2	.....	.....	6	1.41	35.8
Kasanlinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.50	749.2	29.67	753.6	81.3	27.4	31	1	9	7	4	1	.....	3	4	1	.....	.....	4	0.48	12.2
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.50	749.4	29.79	750.7	67.3	19.6	53	6	4	7	4	5	1	1	2	.....	.....	.....	6	0.57	14.4
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.70	754.5	29.81	757.8	53.2	11.8	60	1	2	5	3	2	5	9	3	.....	.....	.....	8	1.27	32.2
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.87	758.6	29.89	759.2	74.8	23.8	58	7	2	1	2	.....	6	4	4	4	.....	.....	4	0.65	16.5
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.30	744.2	29.89	759.2	75.0	23.9	49	5	6	6	4	2	1	2	3	1	.....	.....	6	0.80	20.4
Koslov *a*	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.32	744.8	29.83	757.7	71.6	22.0	54	5	6	6	3	1	1	1	4	2	.....	.....	5	1.63	41.3
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.35	745.5	29.93	760.2	74.3	23.5	48	3	7	7	5	1	.....	3	3	1	.....	.....	6	2.96	75.3
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.90	759.5	29.96	761.0	60.3	15.7	68	3	8	6	9	3	.....	3	.....	.....	.....	.....	4	0.71	18.1
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.65	753.0	29.85	758.2	82.2	27.9	30	2	8	4	3	2	1	4	5	1	.....	.....	6	0.74	18.7
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.38	746.2	29.87	758.7	64.6	18.1	56	6	6	6	1	2	1	1	3	4	.....	.....	5	2.02	51.4
Nerchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.59	700.7	29.81	757.2	61.9	16.6	50	1	2	.....	.....	2	1	1	23	.....	.....	.....	5	1.70	44.6
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.82	757.5	29.89	759.2	83.3	28.5	44	4	1	.....	6	3	.....	3	9	4	.....	.....	2	0.05	1.1
Nikolaievsk	N. 53 08	E. 140 45	9.23 p.m.	59	18	29.59	751.5	29.69	754.1	48.2	9.0	76	3	3	3	.....	.....	1	4	5	10	.....	.....	6	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.40	746.8	29.86	758.4	61.2	16.2	51	7	8	.....	.....	2	1	4	3	3	2	.....	8	1.43	36.4
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.44	747.9	29.77	756.1	85.8	29.9	28	2	6	5	5	.....	1	3	8	.....	.....	.....	6	0.96	25.0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.57	751.0	29.80	756.9	59.4	15.2	52	3	6	5	2	2	6	4	2	.....	.....	.....	6	2.58	65.5
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.44	747.7	29.93	760.2	73.8	23.2	52	1	10	4	2	3	1	6	2	1	.....	.....	5	1.61	41.0
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.84	757.8	29.86	758.4	73.9	23.3	84	.....	12	1	1	16	.....	.....	.....	1	.....	.....	4	4.41	112.1
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.80	756.9	29.86	758.4	61.3	16.3	54	1	13	7	1	4	1	2	1	.....	.....	.....	6	1.58	40.0
Samarkand *a*	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.36	695.0	29.67	753.6	83.3	28.5	42	.....	1	1	.....	1	1	4	22	.....	.....	.....	1	0	0
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.03	737.4	29.65	753 1	80.6	27.0	28	5	3	1	4	3	1	1	11	.....	.....	.....	5	0.20	5.1
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.65	753.2	29.86	758.4	77.9	25.5	51	3	8	9	6	3	.....	.....	1	.....	.....	.....	4	0.23	5.8
Starol Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.35	745.4	29.90	759.4	73.4	23.0	47	2	2	0	5	1	4	6	3	1	.....	.....	7	1.33	33.8
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.12	714.1	29.66	753.4	89.4	31.9	31	1	6	2	7	.....	1	1	.....	12	.....	.....	2	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.45	722.7	29.79	756.7	80.4	26.9	32	4	9	1	2	6	5	2	1	1	.....	.....	5	1.12	28.5
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.55	750.6	29.98	761.5	72.3	22.4	52	2	7	7	6	2	2	1	1	2	.....	.....	5	1.20	30.4
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.52	749.9	29.83	757.7	74.7	23.7	47	3	1	1	1	4	4	8	1	7	.....	.....	6	1.70	43.1
Sub-Series.																											
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.25	742.9	29.77	756.1	64.3	17.9	62	6	4	8	3	3	2	.....	3	1	.....	.....	6	0.95	24.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
SPANISH.	o /	o /																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.85	758.2	30.01	762.2	72.3	22.4	72	....	.....	2	2	13	6	6	1	.....	.....	.....	5	3.34	84.9
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.96	761.0	30.02	762.5	74.5	23.6	65	1	21	...	.....	2	2	.....	2	2	1714	2758	6	8.86	225.0
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.09	688.2	29.97	761.1	70.0	21.1	62	3	....	5	5	4	2	5	6	.....	4494	7232	5	5.06	128.6
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.80	706 2	29.93	760.3	75.6	24.2	49	1	1	4	4	4	1	5	3	7	5379	8656	2	2.49	63.2
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.10	739.1	30.00	761.9	69.6	20.9	69	5	.....	.....	.....	12	.....	1	1	10	1	6508	10473	6	2.10	53.3
Sub-Series.																												
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.99	761.7	30.05	763.3	78.5	25.8	85	.....	...	.....	.....	2	12	15	1	.....	.....	.....	4	8.07	205.0
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.81	757.2	29.80	756.9	82.9	28.3	74	1	1	2	8	3	10	3	2	.....	6815	12620	5	6.66	169.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.96	760.9	30.03	762.7	73.9	23.3	59	.....	1	13	6	2	.....	8	.....	.....	.....	.....	5	0.72	18.3
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	30.02	762.6	30.06	763.4	81.3	27.4	75	.....	....	.....	.....	1	15	10	.....	4	.....	.....	4	2.82	71.5
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.67	753.6	29.76	755.9	52.3	11.3	62	4	1	8	4	9	1	.....	2	1	.....	.....	6	2.66	67.7
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.71	754.6	29.81	757.1	55.0	12.8	60	3	6	1	7	10	1	1	1	.....	.....	.....	7	3.77	95.7
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.72	754.8	29.81	757.2	56.5	13.6	57	5	4	2	5	11	1	1	1	.....	.....	.....	6	3.44	87.4
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.66	753.4	29.87	758.8	62.2	16.8	53	1	1	4	7	7	1	3	2	4	.....	.....	5	1.16	29.4
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.79	756.7	29.88	759.0	60.1	15.6	63	3	2	13	5	.....	2	3	2	.....	.....	.....	2	0.57	14.5
Sub-Series.																												
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.72	754.9	29.85	758.1	61.0	16.1	56	3	3	4	10	3	1	5	1	.....	.....	.....	6	2.59	65.7
SWISS.																												
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.62	726.9	30.00	762.0	70.7	21.5	55	18	2	.....	4	5	1	.....	.....	.....	.....	.....	5	1.96	49.9
TURKISH.																												
Constantinople	N. 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.87	758.7	72.7	22.6	57	9	1	.....	9	1	2	.....	8	.....	.....	.....	4	0.42	10.6
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.08?	764.0?	77.7	25.4	.....	.....	7	4	15	4	.....	.....	.....	.....	.....	.....	6	4.49	114.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.82	757.3	82.2	27.9	.....	3	.....	9	18	....	....	.....	.....	.....	.....	.....	2	0.40	10.2
UNITED STATES.																												
New Engl'd states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.84	757.9	29.91	759.7	54.9	12.7	75	3	3	4	2	10	.....	1	1	6	5792	9321	5	4.64	117.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	45	14	29.88	758.9	29.92	760.0	62.1	16.7	71	3	4	6	5	6	.....	.....	2	4	5640	9076	4	4.06	103.1
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.78	604 0	29.90	759.4	40.6	4.8	89	2	16	7	2	2	.....	.....	.....	1	25025	40293	3	11.34	288.0
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.83	757 7	29.96	761.0	63.2	17.3	67	3	6	10	6	3	.....	1	1	.....	8939	14386	4	3.70	94.0
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.98	761.5	30.00	762.0	61.2	16.2	84	3	1	4	18	1	.....	1	2	.....	10061	14238	4	1.90	48.3
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.97	761.2	30.01	762.2	64.5	18.1	75	4	5	7	6	2	.....	.....	1	5	4832	7776	3	2.12	53.8
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.90	759.4	30.00	762.0	62.0	16.7	77	4	3	4	3	11	.....	.....	1	4	4725	7604	4	1.43	36.3
Mid. Atlan. states.																												
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.91	759.7	29.99	761.7	62.7	17.1	71	2	3	1	12	7	.....	1	3	1	5856	9424	4	1.98	50.3
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.86	758.4	30.02	762.5	63.0	17.2	78	4	8	3	9	6	.....	.....	.....	.....	7048	11342	4	1.86	47.2
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.92	760.0	30.03	762.7	65.9	18.8	70	6	4	5	6	3	1	1	2	2	7380	11877	5	0.74	18.8
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.01	762.2	30.03	762.7	63.1	17.3	76	1	7	3	9	5	4	.....	1	.....	10456	16827	3	1.41	35.8
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.02	762.5	30.02	762.5	64.4	18.0	88	2	5	3	5	4	2	5	3	1	5848	9411	4	1.33	33.8
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.01	762.2	30.02	762.5	65.1	18.4	80	7	3	2	6	6	.....	2	1	3	8553	13764	3	0.72	18.3
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.00	762.0	30.01	762.2	64.9	18.3	83	3	5	.....	5	6	5	3	3	.....	9429	15172	4	2.23	56.6
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.01	762.2	30.04	763.0	68.7	20.4	68	3	8	1	2	9	1	2	4	3994	6428	4	3.30	83.8
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.96	761.0	30.06	763.5	66.6	19.2	76	3	6	1	2	9	1	2	4	3994	6428	4	3.30	83.8
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.04	763.0	30.03	762.7	67.5	19.7	82	1	8	1	1	7	5	3	4	.....	6152	9900	4	1.82	46.2
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.05	763.3	30.05	763 3	69.4	20.8	80	5	1	4	8	2	3	1	5	1	8207	13208	4	2.26	57.4
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.39	746.5	30.04	763.0	69.1	20.6	75	1	1	4	5	7	1	2	6	3	2423	3899	5	3.30	83.8
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.03	762.7	30.04	763.0	71.5	21.9	78	5	2	... ..	11	....	6	2	4	.....	5024	8085	5	3.48	88.4
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.07	763.8	30.06	763.5	70.5	21.4	85	5	.....	8	4	1	1	3	7	1	8947	14399	5	3.81	96.8
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.06	763.5	30.04	763.0	72.6	22.6	86	4	2	5	4	.....	3	3	9	.....	7018	11294	5	4.42	112.3
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.07	763.8	30.05	763.3	72.9	22.7	89	3	3	3	12	.....	2	1	6	.....	9866	15878	5	5.81	147.5
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.04	763.0	30.05	763 3	74.2	23.4	64	3	2	7	5	.....	1	5	6	1	7795	12545	5	2.35	59.7
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.02	762.5	30.05	763.3	73.5	23.1	83	1	3	4	8	.....	2	6	4	2	4630	7451	6	8.21	208.5
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.26	743.2	30.06	763.5	71.2	21.8	76	2	4	1	10	4	.....	6	3	.....	3231	5200	5	3.48	88.4
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.02	762.5	30.04	763.0	76.8	24.9	83	2	3	4	8	.....	1	3	6	3	5028	8092	6	5.96	151.4
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.93	760.2	30.08	764.0	72.7	22.6	85	3	2	1	.....	11	8	3	2	.....	2216	3566	5	2.80	71.1
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.00	762.0	30.06	763 5	77.0	25.0	82	9	.....	3	6	6	1	.....	5	.....	4387	7060	4	8.11	206.0
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.04	763.0	30.05	763.3	78.7	25.9	84	.....	2	.....	9	6	3	1	5	4	3900	6276	5	8.98	228.1
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.04	763 0	30.02	762 5	79.0	25.1	85	2	2	4	3	2	1	5	8	3	4585	7379	7	10.98	278.9
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.05	763.3	30.02	762.5	82.0	27.8	79	1	2	.....	.....	5	15	6	1	.....	5622	9048	6	3.58	90.9
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.05	763.3	30.06	763 5	77.0	25.0	91	3	.....	2	7	5	2	3	3	5	2783	4479	4	5.89	149.6
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.94	735.1	30.07	763.8	71.8	22.1	81	.....	1	4	13	.....	6	6	.....	.....	4922	7921	4	4.83	122.7
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.03	762.7	30.02	762.5	76.9	24.9	83	4	7	.....	9	3	1	2	2	2	4326	6962	3	3.98	101.1
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.04	763 0	30.04	763.0	74.0	23.3	88	2	5	2	1	.....	1	.....	1	18	3003	4833	5	4.18	106.2
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.86	758.4	30.05	763.3	74.2	23.4	85	4	2	3	4	2	3	3	5	4	2914	4690	4	4.32	109.7
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.85	758.2	30.04	763.0	74.6	23.7	79	2	2	1	4	.....	7	4	.....	10	.....	.....	4	2.90	73.7
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.00	762.0	30.02	762.5	78.8	26.0	82	3	3	1	10	4	5	2	1	1	3467	5580	3	3.30	83.8
West Gulf states.																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.82	757.4	30.02	762.5	73.8	23.2	85	.....	.....	3	3	15	3	2	1	3	3119	5020	6	5.79	147.1
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.52	749.8	29.98	761.5	70.1	21.2	93	.....	....	.....	1	1	1	10	10	7	2798	4503	5	4.88	123.9
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.70	754.4	29.97	761.2	73.0	22.8	87	1	1	.....	6	3	.....	.....	4	15	2401	3864	6	3.39	86.1
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.01	762.2	30.01	762.2	81.2	27.3	78	.....	....	.....	.....	4	24	2	.....	.....	5733	9226	4	3.28	83.3
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.99	761.7	29.98	761.5	78.4	25.8	87	.....	.....	.....	.....	4	16	10	.....	.....	7054	11352	3	0.21	5.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.51	749.5	30.02	762.5	72.9	22.7	94	1	1	.....	2	15	6	3	2	.....	5680	9141	4	2.07	52.6
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.19	741.4	29.94	760.5	72.8	22.7	94	.....	.....	.....	.....	8	14	1	2	5	5673	9130	5	0.86	21.8
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.93	760.2	29.94	760.5	76.4	24.7	92	1	.....	.....	.....	12	7	5	.....	5	5366	8636	2	0.54	13.7
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.78	756.4	29.93	760.2	78.0	25.6	83	.....	.....	.....	.....	.....	24	6	.....	.....	7040	11330	2	0	0
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.27	743.4	30.05	763.3	70.0	21.1	88	2	4	3	13	2	1	2	2	1	3181	5119	4	6.09	154.7
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.08	738.6	30.07	763.8	68.4	20.2	86	5	3	3	6	.....	.....	5	2	6	3370	5423	5	3.15	80.0
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.72	754.9	30.02	762.5	73.7	23.2	81	3	2	2	7	5	4	1	6	.....	3842	6183	5	1.52	38.6
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.49	749 0	30.03	762.7	70.6	21.4	82	3	2	5	2	2	3	9	4	.....	3763	6056	7	3.72	94.5
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.48	748.8	30.06	763 5	67.9	19.9	83	11	1	1	3	3	8	.....	2	1	5452	8774	5	3.18	80.8
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.12	739.6	30.03	762.7	62.8	17.1	83	5	1	1	4	10	5	1	3	.....	4202	6762	5	8.64	219.5
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.25	742.9	30.03	762.7	63.2	17.3	83	2	3	3	7	7	2	3	3	.....	3665	5898	6	5.74	145.8
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.40	746.7	30.04	763.0	63.9	17.7	80	3	.....	2	3	.....	7	.....	11	4	4278	6885	6	3.98	101.1
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.21	741.9	30.04	763.0	63.6	17.6	80	5	2	1	9	4	4	2	3	....	4381	7050	5	5.08	129.0
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.24	742.7	30.03	762.7	61.3	16.3	79	6	7	1	3	4	.....	.....	3	6	4116	6624	4	2.68	68.1
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.33	745.0	29.98	761.5	58.3	14.6	83	1	3	9	14	3	.....	.....	.....	.....	7306	11758	4	4.27	108.5
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.28	743.7	30.00	762.0	58.3	14.6	84	1	2	3	9	11	3	.....	.....	.....	7220	11619	5	6.39	162.3
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.61	752.1	29.96	761.0	57.5	14.2	78	1	1	10	3	11	2	.....	1	1	6831	10993	5	3.94	100.1
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.30	744.2	30.01	762.2	62.0	16.7	76	3	3	5	7	8	2	1	1	.....	6338	10200	4	6.84	173.7
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.39	746.5	30.03	762.7	63.7	17.6	74	5	1	3	17	2	.....	2	.....	.....	8231	13246	4	6.61	167.9
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.32	744.7	30.04	763.0	61.7	16.5	79	4	2	2	5	4	10	1	2	....	6395	10292	4	7.22	183.4
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.35	745.5	30.02	762.5	64.3	17.9	74	3	4	9	8	3	1	.....	2	.....	4420	7113	4	3.36	85.3
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.34	745.2	30.03	762.7	60.4	15.8	78	4	.....	3	5	5	3	1	.....	2	6034	9711	3	3.36	85.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for June, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. STATES—Con.																										
Upper lake region.	° ′	° ′																								
Alpena.*a*	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.32	744.7	29.97	761.2	55.7	13.2	78	2	4	8	6	1	6	1	.....	2	6475	10420	4	1.74	44.2
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.30	744.2	29.95	760.7	54.4	12.4	71	8	5	2	1	11	2	1	.....	.....	6566	10567	4	1.94	49.3
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.35	745.5	30.00	762 0	57.4	14.1	78	2	3	2	2	10	1	4	3	3	6460	10396	4	5.64	143.3
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.32	744.7	29.97	761.2	54.1	12.3	78	2	6	5	4	1	3	1	3	5	6452	10383	4	1.88	47.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.25	742.9	29.97	761.2	54.1	12.3	76	.....	3	7	4	2	5	3	3	3	5419	8721	3	3.34	84.8
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.34	745.2	30.01	762.2	57.6	14.2	83	5	3	3	4	10	1	1	3	.....	6169	9928	3	5.29	134.4
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.32	744 7	30.01	762.2	62.4	16.9	78	4	4	3	6	7	2	1	.....	3	4649	7482	5	5.20	132.1
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.27	743.4	30.00	762.0	56.5	13.6	82	5	4	5	5	4	2	3	1	1	6929	11151	5	6.49	164.8
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.27	743.4	29.99	761.7	54.0	12.2	77	1	10	1	3	2	1	1	10	1	5054	8133	5	4.82	122.4
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	801	244	29.12	739.6	29.96	761.0	60.2	15.7	91	2	3	2	2	7	4	.....	2	8	3910	6292	6	3.73	94.7
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.22	742.2	29.96	761.0	62.0	16.7	80	4	.....	4	10	9	1	.....	1	1	4757	7656	5	4.92	125.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.37	746.0	30.00	762.0	63.1	17.3	81	7	1	4	2	7	2	2	4	1	4620	7435	6	2.08	52.8
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.12	739.6	29.99	761 7	62.4	16.9	87	4	.....	2	5	4	.....	2	2	11	2671	4298	5	5.03	127.8
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.30	744 2	29.98	761.5	61.1	16.2	82	1	5	4	6	4	5	1	1	3	3386	5449	5	6.16	156.5
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.37	746.0	30.00	762.0	65.4	18.6	82	5	2	1	5	6	1	6	2	2	5200	8368	5	6.97	177.0
Cairo.*b*	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.69	754.1	30.04	763.0	69.6	20.9	82	4	2	.....	1	5	6	4	3	3	4746*b*	7638*b*	6	4.63	117.6
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.35	745.5	29.99	761.7	65.9	18.8	74	3	2	1	4	5	2	3	.....	10	4408	7094	6	4.18	106.2
Saint Louis.*a*	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.44	747.8	30.02	762.5	68.2	20.1	82	3	2	3	3	3	6	3	6	.....	6995	11257	6	7.68	195.1
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	29.97	761.2	66.7	19.3	83	3	2	1	.....	7	7	1	1	8	4601	7404	6	4.00	101.6
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.85	732.8	29.98	761.5	65.4	18.6	84	4	4	1	3	8	7	.....	2	1	5938	9556	6	2.67	67.8
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.40	721.3	29.94	760.5	56.7	13.7	86	3	8	3	3	1	9	2	1	.....	6321	10172	6	5.62	142.7
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.76	726.4	29.94	760.5	58.0	14.4	87	0	2	1	3	5	4	1	4	6	6209	9992	5	5.43	137.9
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.70	729.0	29.97	761.2	59.5	15.3	90	3	6	.....	4	1	6	2	3	5	4984	8021	7	2.90	73.7
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.96	735.6	30.00	762.0	66.7	19.3	88	1	1	1	3	9	6	3	5	1	7577	12194	7	3.12	79.2
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.96	735.6	29.93	760.2	55.9	13.3	90	7	1	1	5	7	7	.....	1	1	6695	10774	6	7.92	201.2
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.12	739.6	29.98	761.5	52.2	11.2	92	2	4	6	3	6	3	3	.....	.....	5788	9315	5	2.92	74.2
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.15	715 0	29.91	759.7	54.5	12.5	85	5	2	1	.....	4	4	5	3	6	5471	8805	5	2.39	60.7
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27 93	709.4	29.93	760.2	53.9	12.2	89	1	1	4	2	2	2	6	9	3	6308	10152	6	6.05	153.7
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.36	720 3	29.93	760.2	55.3	12.9	84	5	2	2	5	.....	6	4	4	2	7774	12511	5	3.45	87.6
Northern slope.																										
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.22	691.4	29.99	761.7	52.1	11.2	74	.....	1	4	3	1	1	3	6	11	4027	6471	5	5.60	142.2
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.83	681.5	29.89	759.2	52.5	11.4	82	2	4	2	3	1	9	7	1	1	5538	8912	5	4.18	106.2
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.58	649 7	29.91	759.7	49.9	9.9	67	8	5	2	2	3	4	5	1	.....	6582	10592	8	4.41	112.0
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.34	669.0	29.92	760.0	53.6	12.0	62	1	3	23	.....	.....	1	2	.....	.....	3438	5533	4	2.83	71.9
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.82	655.8	29.89	759 2	48.6	9.2	77	1	13	7	8	1	.....	.....	.....	.....	4413	7102	4	4.46	113.3
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.83	705.9	29.94	760.5	56.4	13.6	88	3	2	4	1	1	6	11	1	1	5323	8566	4	4.51	114.6
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.40	645.1	29.84	757.9	51.3	10.7	82	2	1	3	11	3	2	1	5	2	3673	5911	3	4.83	122.7
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.06	611.1	29.81	757.2	48.6	9.2	84	1	12	3	2	7	1	.....	2	2	8249	13276	4	2.75	69.8
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.09	688 1	29.87	758.7	58.4	14.7	85	3	2	3	2	5	3	8	2	2	6679	10749	5	3.79	96.3
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.94	455.7	29.74	755.4	26.2	—3.2	82	1	2	9	8	7	1	.....	1	1	14473	23292	2	1.39	35.3
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.52	724.4	29.92	760.0	62.8	17.1	93	5	.....	2	3	4	6	5	3	2	6848	11021	5	1.12	28.4
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.81	630.2	29.83	757.7	52.7	11.5	71	1	7	.....	6	1	.....	.....	2	.....	5723	9210	4	0.66	16.8
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.06	661.9	29.81	757.2	59.4	15.2	78	4	2	8	3	.....	3	7	2	1	7749	12471	4	2.14	54.4
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.40	695.9	29.87	758.7	63.4	17.4	83	3	5	2	1	4	7	4	4	.....	9667	15557	5	2.02	51.3
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.23	691.6	29.88	758.9	64.8	18.2	88	1	3	.....	1	10	9	1	3	2	8708	14014	5	9.82	249.4
Southern slope.																										
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.74	730.0	29.90	759 4	68.4	20.2	93	1	1	1	1	14	6	.....	3	3	7858	12646	5	8.16	207.3
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.09	713.5	29.93	760.2	71.5	21.9	88	.....	1	.....	3	18	3	4	.....	1	7976	12836	5	4.55	115.6
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	26.97	685.0	29.86	758.4	68.2	20.1	82	.....	.....	.....	1	13	14	.....	.....	2	9357	15058	2	2.86	72.6
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.21	640.3	29.78	756.4	66.7	19.3	61	1	1	8	15	1	.....	2	.....	2	4866	7831	4	1.17	29.7
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.24	666.5	.....	.....	58.6	14.8	49	3	6	.....	.....	2	1	7	1	10	4413	7102	1	0.08	2.0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.35	593.1	29.85	758.2	52.6	11.4	50	.....	.....	.....	.....	2	8	9	6	5	4902	7887	3	1.57	39.9
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.31	691.1	29.81	757.2	59.7	15.4	52	.....	.....	2	.....	4	1	7	1	15	.....	.....	2	0.18	4.6
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.07	636.8	29.80	756.9	49.5	9.7	55	.....	.....	1	.....	.....	2	11	6	10	4683	7536	2	0.82	20.8
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.25	641.3	29.76	755.9	62.5	10.9	39	4	4	7	1	.....	7	2	5	.....	5036	8105	2	0.73	18.5
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.74	628.4	29.78	756.4	49.1	9.5	58	.....	.....	.....	1	6	3	2	.....	18	6366	10245	3	0.07	1.8
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.69	754 1	29.81	757.2	68.8	20.4	68	.....	7	1	2	2	6	.....	2	10	4684	7538	0	0	0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.26	667.0	29.82	757.4	66.8	19.3	47	3	1	11	5	.....	.....	2	7	1	3503	5637	4	2.63	66.8
Middle plateau.																										
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25 58	649.7	29.79	756 7	56.7	13.7	67	3	3	.....	.....	2	7	4	4	7	3853	6201	4	2.67	67.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.59	650.0	29.84	757.9	48.9	9.4	62	.....	.....	2	13	5	.....	1	9	.....	5073	8164	2	2.41	61.2
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.32	617.7	29.82	757.4	50.2	10.1	61	.....	.....	.....	9	1	19	1	.....	.....	7093	11415	2	1.02	25.9
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.12	688.8	29.90	759.4	54.2	12.3	79	1	4	.....	1	1	12	3	1	7	3065	4932	3	1.08	27.4
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.16	740.7	29.94	760.5	57.2	14.0	82	.....	1	.....	.....	.....	.....	6	.....	1	22	689	1209	5	4.91	124.7
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.97	710.4	30.02	762.5	55.6	13.1	77	.....	3	.....	6	7	4	3	4	3	3569	5744	5	3.40	86.4
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.24	717.3	29.99	761.7	52.4	11.3	82	.....	.....	.....	12	1	4	1	4	8	3335	5367	5	2.20	55.9
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.84	757.9	30.04	763.0	53.5	11.9	92	10	1	9	1	4	2	2	1	.....	4445	7153	9	3.33	84.6
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.99	761.7	30.03	762.7	53.5	11.9	85	2	1	.....	4	6	.....	.....	.....	17	1883	3030	6	0.79	20.1
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.00	762.0	30.02	762.5	48.8	9.3	92	.....	2	3	5	17	1	.....	.....	2	5195	8360	6	0.67	17.0
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.94	760.5	30.04	763.0	51.7	10.9	91	.....	8	2	12	1	3	2	2	.....	4640	7467	9	1.77	45.0
Portland	N. 45 32	W. 122 43	3.49 a.m.	67	20	29.96	761.0	30.05	763.5	53.8	12.1	84	3	2	3	.....	6	.....	.....	.....	16	2295	3693	7	1.77	45.0
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.50	749.3	30.05	763.3	50.9	10.5	89	.....	7	3	3	.....	1	4	1	11	2273	3658	6	1.53	38.9
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.37	746.0	30.04	763.0	50.4	10.2	90	16	8	1	.....	2	1	.....	.....	2	10821	17414	4	1.32	33.5
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.61	752.1	29.94	760.5	60.7	15.9	66	6	4	.....	.....	12	3	4	.....	1	4770	7676	2	1.37	34.8
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.89	759.2	29.94	760.5	57.1	13.9	76	1	.....	.....	.....	5	7	17	.....	.....	6716	10808	1	0.11	2.8
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.94	760 5	30.00	762.0	53.7	12.1	90	.....	4	12	14	.....	.....	.....	.....	.....	10069	16204	6	0.19	4.8
S. Pac. coast reg'n.																										
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.75	755.6	.....	.....	51.5	10.8	85	6	1	11	5	2	.....	.....	1	4	6159	9912	3	0.06	1.5
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.62	752 3	29.95	760.7	55.0	12.8	85	2	.....	1	3	6	4	4	7	3	3743	6024	5	.....	.....
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.90	759.4	29.94	760.5	59.6	15.3	84	1	7	4	1	4	7	.....	6	.....	4504	7343	8	0.06	1.5
Alaska stations.																										
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.86	758.4	29.94	760.5	44.6	7.0	88	4	1	4	3	6	2	7	1	2	7741	12459	9	3.51	89.2
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.92	760.0	30.02	762.5	51.3	10.7	79	.....	6	5	7	.....	3	.....	9	2	5957	9586	5	2.36	59.9
Unalashka	N. 53 53	W. 166 32	0.54 a.m.	13	4	29.90	759.4	29.94	760.5	42.9	6.1	83	1	2	2	5	3	5	1	9	2	6235	10034	8	2.03	51.6
Sub-Series.																										
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.69	754.1	29.74	755.4	40.0	4.4	95	6	1	.....	4	12	1	6	.....	.....	8650	13921	8	1.63	41.4
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.95	760.7	29.90	759.4	77.4	25.2	90	4	11	.....	2	1	1	1	10	.....	.....	.....	8	13.87	339.6
Cay Sal Light H.	N. 23 56	W. 80 28	6.38 a m.	?	?	.....	.....	30.04	763.0	81.7	27.6	.....	1	1	.....	.....	.....	2	9	14	.....	3	.....	5	1.36	34.5
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	30.06	763.5	80.8	27.1	75	14	...	.....	.....	.....	3	5	.....	8	4054	6524	6	0.46	11.7
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.06	763.5	29.98	761.5	78.4	25.8	85	.....	.....	.....	.....	.....	5	24	1	.....	.....	.....	5	13.65	346.7
Riyas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	76.9	24.9	79	1	.....	.....	.....	2	.....	3	2	22	.....	.....	3	7.26	184.4
Pointe á Pietre	N. 16 14	W. 61 31	7.54 a.m	20	6	30.09	764.2	.....	.....	79.9	26.6	81	.....	.....	.....	.....	.....	1	.....	13	16	.....	.....	4	6.10	154.9

OCEAN SQUARE DATA FOR JUNE, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.94	760.5	78.7	25.9	2						1	27			3.5
12.5 27.5	29.59	761.7	78.5	25.8	2						4	24			3.7
12.5 32.5	30.02	762.5	79.0	26.1							9	21			3.9
12.5 37.5	30.04	763.0	79.2	26.2							20	10			4.0
12.5 42.5	30.05	763.3	79.1	26.2							23	5		2	4.0
12.5 47.5	30.05	763.3	79.1	26.2						1	24	3		2	3.8
12.5 52.5	30.04	763.0	79.6	26.4						2	26	2			3.6
17.5 22.5	30.00	762.0	76.2	24.6							4	26			3.7
17.5 27.5	30.04	763.0	76.4	24.7							9	21			3.9
17.5 32.5	30.08	764.0	77.6	25.3							20	10			4.1
17.5 37.5	30.10	764.5	78.1	25.6							23	5		2	4.4
17.5 42.5	30.11	764.8	78.2	25.7						1	25	2		2	4.1
17.5 47.5	30.11	764.8	78.6	25.9						4	23	1		2	4.0
17.5 52.5	30.09	764.3	79.8	26.6						4	26				3.5
17.5 57.5	30.05	763.3	81.5	27.5						2	26	2			3.4
22.5 22.5	30.07	763.8	74.5	23.6			1				4	24	1		4.0
22.5 27.5	30.11	764.8	75.5	24.2						1	9	20			4.7
22.5 32.5	30.14	765.5	76.6	24.8	1				1	1	11	16			4.0
22.5 37.5	30.17	766.3	77.0	25.0	1		1		2	2	18	4		2	4.2
22.5 42.5	30.18	766.6	77.4	25.3					2	5	18	2		3	4.6
22.5 47.5	30.17	766.3	77.8	25.4	1				2	10	14	1		2	3.6
22.5 52.5	30.15	765.8	78.7	25.9	2				2	8	17		1		3.2
22.5 57.5	30.12	765.0	79.7	26.5	1				2	7	18	1	1		3.2
22.5 62.5	30.11	764.8	80.8	27.1					2	13	15				3.4
22.5 67.5	30.09	764.3	81.3	27.4				1	2	15	12				3.6
22.5 72.5	30.07	763.8	82.2	27.9			1		4	14	11				3.5
27.5 22.5	30.14	765.5	73.0	22.8	3					1	2	22	2		3.6
27.5 27.5	30.18	766.6	74.4	23.6				1	1	1	5	20		2	3.9
27.5 32.5	30.21	767.3	75.4	24.1	1		2	2		2	11	12			3.9
27.5 37.5	30.22	767.6	76.0	24.4			2	1	2	2	20	2		1	4.1
27.5 42.5	30.22	767.6	76.3	24.6			4	1		15	9			1	4.0
27.5 47.5	30.20	767.1	76.1	24.5		1	4		2	15	6		1	1	3.6
27.5 52.5	30.18	766.6	76.5	24.7	1	4		1	6	11	6		1		3.5
27.5 57.5	30.16	766.1	77.5	25.3	1		5	4	2	7	9	1	1		3.4
27.5 62.5	30.13	765.3	78.8	26.0	1		4	5	3	7	7	1	2		3.3
27.5 67.5	30.13	765.3	80.0	26.7	1		3	5	6	7	6	1	1		3.0
27.5 72.5	30.10	764.5	80.3	26.8			2	4	8	14	1			1	3.5
27.5 77.5	30.06	763.5	81.2	27.3	1		3	2	13	8	3				3.0
32.5 12.5	30.07	763.8	71.3	21.8	16		1		1		2	10			3.5
32.5 17.5	30.14	765.5	70.5	21.4	11		5	2	1	1		9	1		3.1
32.5 22.5	30.20	767.1	71.3	21.8	4		2	1	1			22			4.0
32.5 27.5	30.25	768.3	72.8	22.7	3	1	2	2		1	6	15			3.9
32.5 32.5	30.27	768.8	73.6	23.1		1	2	2	2	2	7	14			3.9
32.5 37.5	30.27	768.8	73.9	23.3	1		4	2	3	5	14	1			3.8
32.5 42.5	30.25	768.3	74.0	23.3		1	4	1	4	14	5		1		3.9
32.5 47.5	30.21	767.3	73.6	23.1		1	5	4	12	6	1	1			3.9
32.5 52.5	30.18	766.6	74.5	23.6		2	4	7	9	4	3			1	3.5
32.5 57.5	30.16	766.1	74.4	23.6		2	4	8	9	1	5	1			3.9
32.5 62.5	30.13	765.3	75.1	23.9		2	5	8	7	2	3	1	1	1	4.1
32.5 67.5	30.11	764.8	74.6	24.8	1	1	7	6	5	5	3			2	4.2
32.5 72.5	30.07	763.8	77.0	25.0	1	1	4	10	5	4	1	1	2	1	3.6
32.5 77.5	30.05	763.3	76.7	24.8	1	1	6	9		4	5	3		1	3.3
37.5 12.5	30.07	763.8	68.6	20.3	13	6	3	2		1		5			4.0
37.5 17.5	30.16	766.1	68.3	20.2	8	3	1	4				14			4.1
37.5 22.5	30.24	768.1	69.7	20.9	8	3	1	4			1	12	1		4.0
37.5 27.5	30.28	769.1	71.0	21.7	5	1	4	3	2	1	2	10	1	1	3.9
37.5 32.5	30.30	769.6	71.4	21.9	2	3	2	3	6	2	3	5	4		3.2
37.5 37.5	30.28	769.1	70.8	21.6	1	2	4	7	6	5	1	3	1		3.8
37.5 42.5	30.21	767.3	70.0	21.1	1	1	2	15	4	4	2	1			4.6
37.5 47.5	30.16	766.1	69.0	20.6	2	1	8	9	4	3	2	1			4.6
37.5 52.5	30.12	765.0	69.7	20.9	2	3	6	10	2	2	3	1		1	4.5
37.5 57.5	30.09	764.3	70.0	21.1	2	5	6	8	5	3	1				4.4
37.5 62.5	30.06	763.5	69.9	21.1	2	1	9	8	3	4	2			1	4.4
37.5 67.5	30.06	763.5	69.2	20.7	3	2	6	8	5	1	1	2	1	1	4.1
37.5 72.5	30.04	763.0	69.1	20.6	8	2	1	7	4	3	1	3		1	4.1
42.5 12.5	30.07	763.8	66.2	19.0	7	5	2	3		1		12			4.1
42.5 17.5	30.17	766.3	65.4	18.6	7	7	1	2	2		3	8			4.3
42.5 22.5	30.23	767.8	65.8	18.8	5	7	4	1	5		1	6	1		3.9
42.5 27.5	30.24	768.1	66.7	19.3	4	7	5	5	5			4			4.1
42.5 32.5	30.24	768.1	66.6	19.2	2	4	8	7	1	2	4	2			4.1
42.5 37.5	30.19	766.6	65.3	18.5	1		11	8	4	4		1	1		4.3
42.5 42.5	30.12	765.0	64.5	18.1	2	1	6	14		4		1	1	1	4.8
42.5 47.5	30.05	763.3	60.4	15.8		3	8	11	1	3	2		2		4.2
42.5 52.5	30.00	762.0	60.4	15.8	2	2	10	9	2	2	2			1	4.5
42.5 57.5	29.97	761.2	61.3	16.3	2	2	8	8	5	4				1	4.8
42.5 62.5	29.97	761.2	61.2	16.2	2	2	8	9	2	3		2	2		4.0
42.5 67.5	29.97	761.2	58.6	14.8	3	4	7	7	5	1			3		3.6
47.5 12.5	30.11	764.8	61.7	16.5	6	2	4	1	3	2	1	11			4.1
47.5 17.5	30.15	765.8	60.2	15.7	4	5	3	2	4	1		9	1	1	3.7
47.5 22.5	30.17	766.3	60.0	15.6	5	5	7	4	3	1		3	1	1	3.9
47.5 27.5	30.17	766.3	60.3	15.7	4	5	6	8	1	1	1		3	1	3.9
47.5 32.5	30.12	765.0	59.5	15.3		3	11	9	2	3		2			4.2
47.5 37.5	30.06	763.5	57.8	14.3		2	10	10	3	1	2	1	1		4.6
47.5 42.5	29.98	761.5	54.7	12.6		1	5	16	2	3	1	2			4.4
47.5 47.5	29.90	759.4	51.5	10.8	2		7	13	3	2	1	2			4.7
52.5 12.5	30.09	764.3	57.7	14.3	6	5	4	7	3	1		4			4.5
52.5 17.5	30.07	763.8	55.9	13.3	3	3	9	7	4	2		1		1	4.6
52.5 22.5	30.05	763.3	54.9	12.7		5	9	9	4		1		1	1	4.5
52.5 27.5	30.01	762.2	53.8	12.1		4	12	10	1	1	1			1	4.9
52.5 32.5	29.96	761.0	51.6	10.9		2	11	11	1	3	1			1	4.7
52.5 37.5	29.93	760.2	50.5	10.3	1		7	14	1	3	1			3	5.1
52.5 42.5	29.90	759.4					6	15	1					8	4.7
52.5 47.5	29.81	757.2					3	15	1	1		1		9	4.7
57.5 12.5	29.94	760.5	54.0	12.2	1	4	7	10	6			2			4.3
57.5 17.5	29.91	759.7	51.5	10.8	1	4	8	10	3	2		2			4.4
57.5 22.5	29.87	758.7				4	8	10	3	2		1		2	4.5
57.5 27.5	29.84	757.9			1	1	13	6	2	2		2		3	5.0
57.5 32.5	29.83	757.7				1	13	5	2	1				8	4.7
57.5 37.5	29.79	756.7					7	9						14	
57.5 42.5															
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR JUNE, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of June, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Two well-defined areas of low mean pressure appear: one is located in British India, with mean pressure ranging to 29.39 (746.5); the other extends from the Gulf of California into Utah, including portions of Arizona and New Mexico, and exhibits mean pressure ranging from 29.76 (755.9) to 29.80 (756.9). An area of low mean barometer, bounded by the line of 29.70 (754.4), is located over the northern portion of the Sea of Okhotsk, and pressure lines of 29.80 (756.9) are traced off the southwest coast of Africa and from the coast of North America, in N. 50°, across the Atlantic Ocean to the west coast of Scandinavia, in N. 68° 30′.

The only marked area of barometric maxima is charted in the north Atlantic, and is bounded by the isobar of 30.20 (767.1); it covers the ocean between the parallels of N. 25° and 45° and from W. 20° to 49°. The highest mean pressure recorded within this area is 30.28 (769.1), in N. 38°, W. 27° and 37°. An area of relatively high mean pressure is located over the Pacific Ocean off the west coast of North America, with mean barometer 30.04 (763.0) at Pacific coast stations. In the United States the mean pressure ranges from 29.90 (759.4) to 30.00 (762.0) within a belt extending from the west coast of the Gulf of Mexico to the British possessions; from the Mississippi Valley eastward the mean pressure ranges above 30.00 (762.0), except in the Lake region, northern New York, and New England, where it is lower. Over Newfoundland and Canada mean pressures are recorded from 29.84 (757.9) in New Brunswick to 29.96 (761.0) in Manitoba.

Compared with the chart for the preceding month (May, 1885), there has been an increase in pressure over the United States, except in New England. The increase along the Pacific coast is about .05 of an inch, while over the greater part of the country to the eastward of the one hundredth meridian it is from .05 to .10 of an inch higher. In the Rocky Mountain districts and New England it is about .10 of an inch lower. In Canada the average pressure is about .10 of an inch lower in the Maritime Provinces; in other districts slight changes are noted. Over the north Atlantic the mean pressure is higher, except in extreme high latitudes, where it is about .10 of an inch lower.

In Europe the following changes in mean pressure appear: over the British Isles it is .10 to .15 of an inch higher; in Spain it remains about the same; in France and Germany it is about .10 of an inch higher; over Scandinavia slight changes have occurred; over the Mediterranean it is about the same, while over western Europe it averages about .05 of an inch higher. Over Asia and adjacent waters the mean pressure is .10 to .20 of an inch lower.

Compared with the corresponding month of previous years the mean pressure does not differ from the normal on the north Pacific coast and over a part of the middle plateau of the United States; in New England it is slightly below the normal, and in all other parts of the country it is above the normal, the departure being greatest over an area extending from the south Atlantic coast to the extreme northwest. In Canada the average pressure is somewhat above the normal in Ontario, but below in Quebec and the Maritime Provinces. Over the British Isles the mean pressure is about .13 of an inch above the normal; over the balance of Europe it is above the average, except in Sweden, Spain, and Italy, where it falls slightly below; over British India it is below the normal; Asiatic reports show a decrease over Siberia and the Japanese Islands.

The following table shows the mean pressure and mean temperature for June, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	June mean of 8 (1877–'84) years.	June, 1885.	Departure.	June mean of 8 (1877–'84) years.	June, 1885.	Departure.
				°	°	°
Austro-Hungary	29.90	29.94	+ 0.04	70.5	73.8	+ 3.3
British Isles	29.92	30.05	+ 0.13	60.7	61.2	+ 0.5
Denmark	29.90	29.97	+ 0.07	61.2	59.3	− 1.9
France	30.01	30.02	+ 0.01	69.3	72.4	+ 3.1
Germany	29.96	30.00	+ 0.04	67.3	70.0	+ 2.7
India *	29.53	29.48	− 0.05	88.8	90.0	+ 1.2
Italy	29.96	29.95	− 0.01	75.3	76.4	+ 1.1
Norway	29.83	29.86	+ 0.03	59.7	52.7	− 7.0
Russia	29.84	29.86	+ 0.02	70.1	70.4	+ 0.3
Spain	30.02	29.99	− 0.03	73.7	71.7	− 2.0
Sweden	29.86	29.83	− 0.03	60.1	57.0	− 3.1

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	June mean of 8 (1877–'84) years.	June, 1885.	Departure.	June mean of 8 (1877–'84) years.	June, 1885.	Departure.
				°	°	°
Astrakhan, Russia	29.83	29.82	− 0.01	80.2	79.5	− 0.7
Archangel, Russia	29.82	29.81	− 0.01	58.5	56.8	− 1.7
Athens, Greece*	29.91	29.83	− 0.08	82.8	80.2	− 2.6
Beirut, Turkey in Asia	29.84	29.82	− 0.02	82.5	82.2	− 0.3
Barnaul, Siberia, Asia	29.71	29.73	+ 0.02	67.2	74.5	+ 7.3
Bridgetown, Barbadoes	30.03	29.98	− 0.05	82.6	83.7	+ 1.1
Cape Town, Cape of Good Hope					61.6	
Ekaterinburg, Russia	29.73	29.70	− 0.03	60.6	62.2	+ 1.6
Fort Napier, Natal, South Africa	30.05	30.02	− 0.03	68.7	74.6	+ 5.9
Freetown, Sierra Leone	29.91	29.76	− 0.15	84.4	82.0	− 2.4
Funchal, Madeira Islands	30.19	30.13	− 0.06	70.4	70.2	− 0.2
Gibraltar	30.04	30.08	+ 0.04	74.2	69.1	− 5.1
Havana, Cuba, W. I	30.03	30.05	+ 0.02	81.0	78.5	− 2.5
Malta, Mediterranean Sea	29.99	29.95	− 0.04	76.7	73.2	+ 3.5
Melbourne, New South Wales	30.08	30.10	+ 0.02	48.4	47.1	− 1.3
Mauritius, Indian Ocean	30.13	30.11	− 0.02	73.1	72.0	− 1.1
Nassau, Bahamas, W. I	30.07	30.06	− 0.01	82.6	83.0	+ 0.4
Nikolaevsk on the Amoor, Asia		29.69		51.4	48.2	− 3.2
Paramaribo, D. Guiana, S. A	30.06	29.98	− 0.08	79.6	78.4	− 1.2
Ponta Delgada, Azores	30.23	30.28	+ 0.05	69.9	70.9	+ 1.0
San Juan de Puerto Rico, W. I	30.05	30.06	+ 0.01	81.6	81.3	− 0.3
Stykkisholm, Iceland	29.80	29.73	− 0.07	47.9	44.4	− 3.5
Tashkend, Toorkistan, Asia	29.72	29.66	− 0.06	86.1	89.4	+ 3.3
Thorshavn, Färöe Islands	29.88	29.84	− 0.04	50.8	49.5	− 1.3
Tiflis, Russia	29.81	29.79	− 0.02	78.6	80.4	+ 1.8
Tokei, Japan	29.87	29.83	− 0.04	67.3	67.6	+ 0.3
Yeniseisk, Siberia, Asia		29.83			74.7	
Zi-Ka-Wei, China	29.79	29.73	− 0.06	71.1	69.3	− 1.8

* Means for seven years only.

In the United States the mean temperature was below the average over a greater part of the country; in the Lake region and Rocky Mountain districts the means were from two to four degrees below the normal; the departure in other districts being less marked. Along the New England coast, in the Gulf States, and a part of the Rio Grande Valley, the mean temperature was slightly above the normal. In Canada the temperature was below the normal at nearly all stations; in Ontario the defect being from two to three and one-half degrees. In the British Isles the mean temperature was slightly above the average, while over the balance of Europe it was above the normal, except in Scandinavia, Denmark, and Spain, the defect being greatest in Norway. Over India the mean temperature was above the normal.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	102.5	39.2	Unalashka, Alaska	42.9	6.1
Deesa, India	101.1	38.4	Fort Saint Michael's, Alaska	44.6	7.0
Agra, India	98.9	37.2	Behring's Island, Behring Sea	40.0	4.4
Nassau, Bahamas, W. I	83.0	28.3	Stykkisholm, Iceland	44.4	6.9
Petro-Alexandrovsk, Asia	85.8	29.9	Nikolaevsk, on the Amoor	48.2	9.0

In the United States the prevailing winds were as follows: In the lower lake region, Tennessee, and the upper Ohio valley they were from southwest and west; in the upper Missouri valley, northern and middle slopes they were easterly and southeasterly; in the middle Atlantic and Gulf States, upper Mississippi, and the lower portions of the Ohio and Missouri valleys they were southerly; on the California coast they were westerly, except at Cape Mendocino, where the prevailing direction was north; in other districts they were variable.

Over the Atlantic Ocean west to southwest winds prevailed from the coast of the United States to the European coast north of the forty-fifth parallel. Within the area of high pressure over the ocean the winds were variable, while to the southward and westward they were generally easterly. Over the British Isles, Spain, France, and Germany the winds were variable; in Scandinavia they were south to west, while over western Europe they were mostly west to north.

The precipitation in the United States during the month was above the average in the plateau districts, over the eastern slope of the Rocky Mountains, in the extreme northwest, lower lake region, south Atlantic states, and Florida; it was below the average in New England, the middle Atlantic and Gulf States, and in the central valleys. In Canada the rainfall was in excess of the average, save in the Maritime Provinces, where it was deficient. In Nova Scotia, New Brunswick, and Prince Edward Island it was below the average. In the British Isles the total rainfall was much below the average for June, except over some parts of the northwestern and north midland counties, where it was slightly in excess.

TRACKS OF AREAS OF LOW PRESSURE FOR JUNE, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during June, 1885. This chart continues the series of international charts begun in November, 1877, and in its preparation the following data has been used, viz.: Chart i for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports; and other miscellaneous data on file at this office.

The chart for June, 1885, shows the approximate paths of thirty-six areas of low pressure. Seven depressions (numbers i to vii, inclusive) are traced over the North American continent, the average number for June during the last twelve years being 8.8. All of these depressions moved to the eastward or northeastward above the fortieth parallel, and six were continued off the coast as ocean storms. Detailed descriptions of these depressions will be found under "Areas of low barometer" in the MONTHLY WEATHER REVIEW for June, 1885.

Eight areas of low pressure (numbers viii to xv, inclusive) are traced over the Atlantic Ocean; of this number, all but two (numbers viii and x) are continuations of depressions which first appeared over the North American continent. The course of these areas was eastward or northeastward, and the position of the tracks are located from N. 40° to 65°. Four areas of low pressure (numbers viii, ix, x, and xiv) are traced across the ocean to the European coast.

The most severe storm of the month was that traced as number xi, which continued land depression number ii and passed off the coast in N. 41° on the 5th. During the 6th and 7th it passed northeastward to a point off the eastern coast of Newfoundland, with pressure 29.00 (736.6) on the 7th, which is unusually low for storms of the summer months. This storm was especially disastrous along the coast of Newfoundland, a large number of vessels being wrecked or driven ashore. During the 9th this depression united with number xii, which was a continuation of land depression number iii, and passed eastward over Newfoundland during the 8th, with pressure ranging below 29.20 (741.7). At 12 noon (Greenwich mean time) of the 9th, the depression was central in N. 49°, W. 50°, with slight changes in pressure, and violent gales over the ocean to the thirtieth parallel. From this position it moved northeastward to N. 52°, W. 45° by the 10th, with pressure about two-tenths of an inch lower than on the 9th. During this date the depression occasioned gales and storms over the ocean west of the twentieth meridian and north of the thirty-fifth parallel. From the position last cited the area of low moved rapidly northeastward, and was central at 12 noon (Greenwich mean time) of the 11th off the west coast of Iceland; during this date it passed northeastward beyond the region of observation.

Number viii was a continuation of depression number xx charted for May, 1885, and was central on the 1st in N. 53°, W. 30°, with pressure about 29.80 (756.9). During the first three days of the month this depression pursued a northeast course to the northwest coast of Scandinavia and disappeared over the Arctic Ocean on the 3d. Number ix is traced entirely across the ocean, and is described under "North Atlantic storms" in the MONTHLY WEATHER REVIEW for June, 1885. Number x apparently developed over mid-ocean near N. 40°, W. 40° on the 3d, and exhibited pressure ranging below 29.60 (751.8) during that date. Moving rapidly northeastward it was central on the 4th in N. 49°, W. 17°, with pressure about one-tenth of inch lower; during the next twenty-four hours it skirted the west coast of the British Isles, and was central on the 5th in N. 61°, W. 7°, with a contracted low area encircled by the pressure line of 29.20 (741.7); it then passed northeastward, entering Scandinavia, in N. 67°, on the morning of the 6th, and is continued as a land depression.

Number xiii was a continuation of land depression number iv, and, passing off the northern coast of Newfoundland on the 16th, united with depression number xiv on the 17th. Number xiv was a continuation of land depression number v, and passed northeastward off the coast of Labrador to N. 56°, W. 52° by the 17th, with pressure about 29.40 (746.7); from thence moving north-northeast to the southwest coast of Greenland by the 18th, with central pressure about 29.30 (744.2). From that position it circled to N. 60°, W. 28° by the 19th, with a slight increase in pressure; it then moved rapidly eastward and reached the west coast of Norway during the 20th, and is further traced as a European land depression. Number xv was a continuation of land depression number vi, and was central in the Gulf of Saint Lawrence on the 23d, with pressure 29.60 (751.8). On the 24th it had moved northeastward to the southeast point of Labrador; from thence passing through the southern portion of Greenland it disappeared in the direction of Iceland during the the 26th.

Ten areas of low pressure (numbers xvi to xxv, inclusive) are traced over the continent of Europe, of which three, numbers xviii, xx, and xxiii, were continuations of depressions traced over the Atlantic Ocean; three are traced through Scandinavia; one apparently originated in the Gulf of Bothnia; one is traced through central Europe; two through the Black Sea; one through the Caspian Sea; and one first appeared in Spain. Three are given probable paths, and continued, two into Asia, and one southeastward through the Caspian Sea. The general course of direction assumed by the depressions was easterly, except in Scandinavia, where they followed more northerly tracks. The rate of progression was, as a rule, slow, although in instances the depressions made rather rapid progress.

The severest storms of the month occurred in Scandinavia and Finland, accompanying the passage of depressions numbers xviii and xx. Pressures ranging to 29.20 (741.7) were exhibited by number xviii on the 7th and by number xx on the 11th. Number xxi was also possessed of considerable energy, and had pressure 29.40 (746.7) on the 16th, when central over the Gulf of Bothnia, which pressure was not materially increased during the two succeeding days. Ocean depressions numbers viii, ix, and x caused stormy weather over the British Isles during the first ten days of the month, and the influence of number ix, continued as land depression number xx, extended over west and northwest Europe. Number xxii traversed central Europe in a generally north of east direction from

the 17th to 20th, disappearing to the eastward of E. 40° during the 20th. Numbers xxiv and xxv first appeared to the westward of the Black Sea; number xxiv passing north of east, and number xxv about due east. The remaining depressions possessed small force.

Ten areas of low pressure (numbers xxvi to xxxv, inclusive) are traced over the Japanese Islands and in the Pacific Ocean, of which number, seven, are charted across, or in the vicinity of, the Japanese Islands; two are traced over Kamchatka; one of these being given a probable track across the Sea of Okhotsk; and one is traced from a point southeast of Kamchatka over the Aleutian Islands into Alaska. Two depressions, xxviii and xxxv, first appeared in China, and are traced over the Yellow Sea between N. 30° and 33°. Numbers xxvii and xxix exhibited pressure 29.90 (741.7) off the east coast of Kamchatka on the 8th and 11th, an absence of reports rendering it impossible to trace them further. Number xxxiv developed considerable energy during its passage over the Aleutian Islands, exhibiting pressure 29.60 (751.8) on the 27th, and 29.40 (746.7) during the 28th and 29th. The remaining depressions were relatively shallow, and reports do not indicate that special energy was displayed during their passage.

Number xxxvi is traced nearly due west through the Gulf of Aden into Africa and was a continuation of depression number xlii traced for May, 1885. This storm first appeared in the Arabian Sea, in N. 12° 50′, E. 60° 25′, at 4 p. m. (Greenwich mean time) of May 30th, and, moving due west, was central May 31st, at 3.49 p. m., in E. 57° 20′. Continuing a due west course the centre of depression was located June 1st, at 3.36 p. m., in E. 53° 55′, and at 8.32 p. m., in E. 52° 0°. By 3.20 p. m. of June 2d the storm-centre had moved slightly south of west to N. 12° 40′, W. 50° 10′, and during the next twelve hours passed west 1° 55′. At 3.02 p. m. June 3d a slight inclination to the southward had been made, the storm being central in N. 12° 35′, E. 45° 40′, and at 2.50 p. m. it is traced to N. 12° 0′, E. 42° 40′. During the next twelve hours the centre of depression moved slightly south of west to N. 11° 20′, E. 39° 30′, and disappeared into the interior of Africa during the afternoon of the 4th.

An exhaustive report relative to this storm, made by Vice-Admiral G. Cloue, appears in the "Revue Maritime et Coloniale" for April, 1886, of which the following is a summary deduced from the reports of twenty-six vessels which were exposed to the storm's influence, some of them being at sea and some in harbor:

The threatening appearance of the sky was observed by several captains. An enormous swell one hundred and seventy miles in circumference was felt, which obliged the vessels to decrease speed. No danger was apprehended, on account of the good reputation of the Gulf of Aden. It was only after they had entered the active circle of the cyclone that each captain recognized the danger. It is fortunate that storms in this narrow gulf are rare, as up to the present nautical sailing instructions remain silent in this respect, and all captains recognize the silence. Wind squalls have occurred, but this storm absolutely exceeded anything which has ever been observed in the Gulf of Aden; it being so strong that resistance was impossible. The swell was felt at Aden during the afternoon of June 1st; the cyclone then passing Socotra. For the 1st and 2d of June the English admiral's ship reported: "Swell from the w. without apparent cause." Captain Moore said in his report: "Up to 9.30 a. m. (Greenwich mean time) on the 3d I had no suspicion that we were going to have weather other than hail, which ordinarily accompanies the arrival of monsoons; the barometer showed no indication of it, and the only warning which could reasonably be taken as an indication was the swell."

The captain in the port of Aden made the following report to the governor: "I have been at Aden, in the service of the port, since March, 1863, and I do not remember having ever seen at Aden a tempest approaching in violence and duration the one of the third of June; the breakers commenced to develop in 13 metres (42.6 feet) of water and the sea broke strongly and dangerously." At Obok the sea appeared threatening at times, but not sufficiently so to indicate a cyclone.

A cyclone was never before known in the Gulf of Aden; the only storm resembling one being described in the the "Sailor's Hornbook for the Law of Storms," by Henry Piddington, who states that "cyclones move towards the coasts of Persia and Arabia, and are felt there, and even as far as Aden, as stormy weather." The cyclone of May 30th to June 4th penetrated farther west than any preceding one. The storm was not felt on the coast of Somali, from a point a few miles west of Cape Guardafui to the bottom of the gulf.

All vessels coming from the east which found themselves west of the storm experienced similar danger, as they were in the path of the cylone, which moved faster than they. As to the vessels which had not entered the gulf, of which there were a number, after they had entered the storm they could only lessen speed and let the storm pass. Some vessels were able to send before the storm.

The s. s. "Peshawur," had an interesting experience, as, without recognizing the nature of the disturbance, her captain maintained a speed and course which caused the vessel to accompany and pass through the storm, and, when disabled, to again be subjected to the full force of the cyclone as it passed her position. This steamship possessed powerful machinery, and followed the cylone during two days, and entered into it more and more, and at last found itself very close to the centre, where it was disabled.

The following is the report of the vessel, going from Colombo to Aden, every feature of the storm being noted with great care:

"May 31st, at 4 a. m. (Greenwich mean time), three hundred and twenty miles se. by e. from Socotra, the wind was fresh and squally from wsw., with continued rain and high sea; vessel shipped some water. During the day of the 31st the wind was fresh from w. by sw.; at 12 m, strong gusts of wind; the vessel shipped water fore and aft; 4 p. m., heavy wind from sw.; though heavy it was nothing extraordinary in the shape of weather." The gale from the sw. continued as follows: In the evening the wind was moderate, but the rain heavy and continuous and the sea confused. At 3.40 a. m. of June 1st the ship struck the path of the cyclone at the eastern limit of storm, with wind heavy ssw. The vessel increased speed to twelve knots; at 7.30 a. m., fresh gale, weather gloomy, with rain; the wind passed to sse., and at 3.28 a. m. of the 2d to se. by e.

From the time the vessel encountered the storm until 11.30 a. m. of the 1st it steered a northwest course. It accompanied the border of the cyclone, which elongated itself toward the west. At 3.40 a. m. it crossed the path sixty-two miles back of the centre, with wind ssw. The captain had thought himself, for several days, in a monsoon from the sw. He did not suspect the presence of a cyclone, because the barometer, which was in the neighborhood of 29.88 (759.0) on the 31st at 4 a. m., did not fall below 29.84 (758.0) during the time the vessel followed the border of the cyclone. The captain followed, however, with confidence, the route towards the head of the gulf, with speed thirteen knots, during the morning of June 1st. This route converged with the path, the speed of the cyclone being then less than nine knots; consequently the ship attained at 7.30 p. m. the border of the storm and penetrated into the cyclone more and more.

At 9.24 p. m. of the 1st a heavy gale commenced and everything was put in order for a cyclone. The ship passed directly to the north of the centre, with fresh gales from e., barometer 29.81 (757.2). As the vessel passed to the west of the centre the wind shifted more and more to northerly. On the 2d, at 7.26 a. m., the wind was ene., then passed to ne. and at 3.15 p. m. to nne., with force steady. The barometer was not then more than 29.72 (754.9), and the vessel, which moved faster than the storm, was forty-seven miles nnw. of the

centre; very high, heavy sea all the time; the vessel labored heavily, but continued its route at a speed of 12 knots per hour. The captain had not yet recognized the nature of the storm into which he had entered. At 11.20 p. m. the sea was so heavy that the vessel was obliged to reduce speed; at about midnight it cut the path about forty-seven miles in front of the centre; the wind passed rapidly to nnw., then to nw. and to w. The ship was in such a tremendous sea that it was necessary to reduce speed to four knots an hour, only.

Towards 2 a. m. of the 3d the captain recognized at last that he was in the presence of a cyclone, and noted in his journal that he was certain of the position of his vessel, by the relative position of the land; he did not dare to go south. During the early morning of the 3d the wind continued to blow with fury; the sea was fearfully agitated, and the vessel ungovernable; they tried to go by steam but the vessel did not obey its helm; the engine was stopped and they were left adrift. But the centre of the cyclone, which at that time moved at the rate of eleven knots towards the west, caught up with the vessel, and at 6 a. m. it passed to the north at a distance of five or six miles; at 6.30 a. m. the wind jumped from w. to s., where it remained until noon; however, it diminished rapidly in violence from 8 a. m., and the engine was started at 7 a. m. At 3 a. m. the barometer read 29.55 (750.6); at 6 a. m., during the passage of the centre near the vessel, it read 28.99 (736.3); to start from this moment it rose rapidly to 29.84 (757.9) at 8 a. m. At 9. a. m. the storm had ended, and then only came in occasional gusts; it had scarcely lasted two and one-half or three hours after the passage of the centre.

The vessel having accompanied the storm, we cannot draw any conclusion of the number of hours it remained in it. According to the barometer the duration of the storm in this locality should have been about seven hours. After the storm the wind was northeast. The ship arrived at Aden during the early morning of the 4th, having lost several boats. If the captain on June 1st, at midday, had, to the north of Socotra, kept account of the changes for twelve hours, as well as the generally ugly appearance of the weather, and had diminished speed up to the time the storm became violent, he would have left the cyclone to the advance, and his vessel would have arrived at Aden the same time, without injury.

The following table indicates the progress and extent of the cyclone:

Name of vessel or locality.	Date.	Diameter of cyclone.	Distance of passage of the centre.	Rate of progress of centre.	Duration of cyclone.		Total duration.
					Before the centre.	After the centre.	
		Miles.	*Miles.*	*Miles.*	*Hours.*	*Hours.*	*Hr's.*
Mergui	May 30	150	0	8.0	9.30	9.00	18.30
Rouen	June 1	145	0	8.5	4.00	13.00	17.00
Fabert	June 1	140	24 S.	8.9	9.00	6.00	15.00
Diomed	June 1, 2	130	16 S.	9.0	.....	.....	14.00
Donar	June 2, 3	102	16 S.	10.5	6.00	3.00	9.00
Newcommen	June 2, 3	102	34 S.	10.5	4.00	3.00	7.00
Peshawur	June 1, 2, 3	100	6 N.	11.0	.....	3.00	.....
Kaisar i Hind	June 3	100	40 S.	11.0	4.30	1.30	6.00
Inchulva	June 3	72	3 S.	14.0	3.00	2.00	5.00
Aden et Bacchante	June 3	60	12 S.	14.0	2.30	1.30	4.00
Duke of Devonshire	June 3	60	12 N.	14.0	2.30	1.30	4.00
Columbian	June 3	58	6 S.	14.5	2.30	1.30	4.00
Antenor	June 3	52	9 S.	14.5	2.00	1.00	3.00
Balcarres-Brook	June 3	52	16 S.	14.5	.....	.....	3.00
Obok	June 3	50	14 N.	15.0	1.30	1.15	2.45

This cyclone was exceptional by reason of its course, from east to west, as well as on account of its terrible severity. It diminished gradually in diameter as it moved westward, from one hundred and fifty miles when near Socotra to fifty miles on arrival at Obok. As the diameter decreased its violence increased.

The following are minimum barometric readings, as reported by vessels which came within the cyclonic circle:

Name of vessel.	Greenwich mean time.		Position.		Barometer reading.	
	Date.	Time.	Lat. N.	Lon. E.	Inches.	Mill.
			° ′	° ′		
Peshawur	May 31	8.00 p. m.	11 40	57 50	29.84	757.9
Rouen	June 1	3.39 a. m.	13 00	54 30	29.13	740.0
Rouen	June 1	9.45 a. m.	13 20	53 40	28.36	720.3
Donar	June 2	12 midnight	13 10	48 30	29.13	740.0
Peshawur	June 3	7.30 a. m.	12 30	47 40	28.97	735.8
Inchulva	June 3	3.00 p. m.	12 40	45 50	28.00	711.2

The storm was quite destructive in the vicinity of Aden during the 3d, but was not severely felt on the coast to the eastward.

STORM-TRACKS FOR MAY, 1883.

The chart for May, 1883, shows the paths of thirty-eight of the principal depressions that appeared over the northern hemisphere during the month. The data used in the preparation of this chart are obtained from the sources mentioned above (storm-tracks for June, 1885); the marine observations, however, are neither so numerous nor so complete as in that month.

The tracks of thirty-eight depressions shown on the chart are distributed, geographically, as follows: Eight appear over the United States and Canada; of these, six were first noted in nearly the same region. The general direction of movement was north of east, inclining to the northeast after passing the seventy-fifth meridian. These depressions are described in detail in the MONTHLY WEATHER REVIEW for May, 1883, under the heading "Areas of low barometer."

Nine depressions are traced over the Atlantic; of these, four (numbers xiii, xiv, xv, and xvii) are continuations of low areas traced over the North American continent. One, number x, appeared off the southeast coast of the United States and disappeared to the eastward. Number ix was located off the eastern coast in N. 41°, W. 70°, on the 1st, and moved northeastward. Number xi apparently originated near the Azores, and passed northeastward along the west coast of Europe to N. 60°, off the coast of Norway, from thence moving west and southwest to the northwest coast of Scotland, where it disappeared. Number xii was located southeast of Nova Scotia on the 7th, and was not traced after that date.

Number xiii was a continuation of land depression number ii, and, passing off the coast of Newfoundland, is traced to a point midway between Iceland and Norway. Number xiv, continuing land depression number iii, moved northward from Newfoundland, along the west coast of Greenland, passing north of the seventieth parallel during the 16th. Number xv moved northeastward from N. 40°, and disappeared to the eastward of Newfoundland during the 17th. Number xvi first appeared on the west coast of Greenland and moved southeastward, merging into an area of low pressure which prevailed over Iceland and the adjacent ocean from the 23d to 26th, inclusive. Number xvii was a continuation of land depression number vi and passed off the coast of Newfoundland on the 25th, whence it moved northeastward, disappearing off the eastern coast of Iceland during the 29th.

The general character of the weather over the north Atlantic during the month was fair, and the atmospheric pressure was, in general, high. Depression number xiii was remarkable for unusual depth, for the season, but was not accompanied by the violent storms commonly associated with such depressions. As is usual, the depressions traced in high latitudes exhibited very low barometric readings.

Twelve depressions appeared in Europe, their tracks being located in the northern and southern portions. The general course of direction south of the fiftieth parallel was easterly, while to the northward of that latitude a great diversity of direction is shown. Two depressions appeared in Spain and passed into the Mediterranean; one developed near Sardinia, one in Italy, one in France, one in England, and one north of the Black Sea; the remaining numbers are traced over northern Europe. Reports at hand do not indicate that violent atmos-

pheric disturbances attended the passage of these depressions. Ocean depressions numbers xi and xiii caused unsettled weather and rain in the west and southwest portions during the first half of the month, and rain storms were frequent over the Baltic Sea and eastward during the entire month.

Nine depressions are shown in Asia and over the north Pacific Ocean; four of which originated to the westward of, and passed over, the Japanese Islands; three are traced in Siberia; one in British India; and one in Alaska. Two depressions are given a probable track from the Japanese Islands northeastward to the southwestern point of the Alaska Peninsula. From the 1st to 14th, inclusive, an area of low pressure was located over the Aleutian Islands. These depressions were not characterized by unusual energy, nor were they accompanied by remarkably low barometric pressures.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 86 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

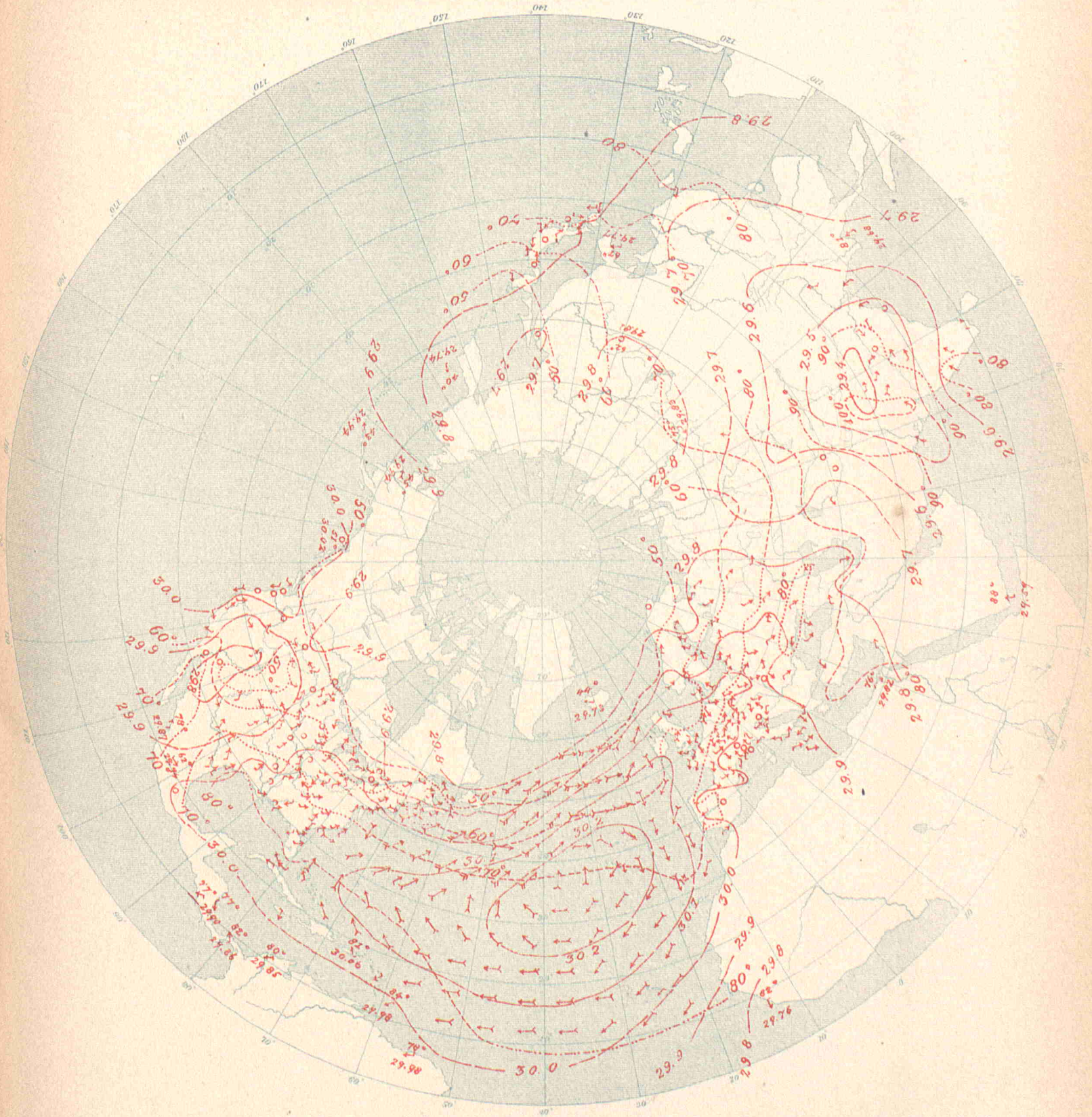
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. June, 1885. Isobars, Isotherms, and Winds.

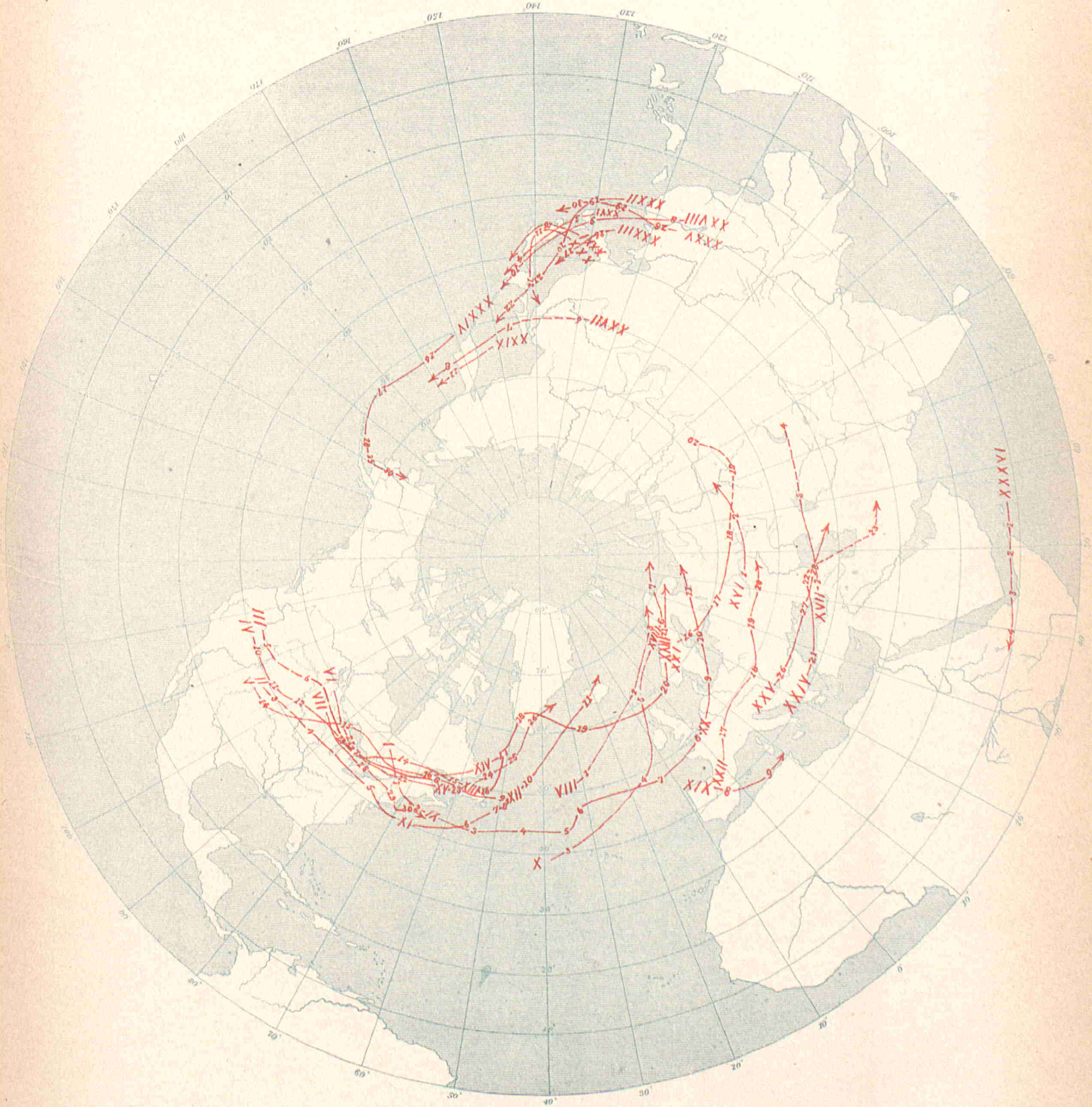


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office 14th.

International Chart III. June, 1885. Tracks of Areas of Low Pressure.

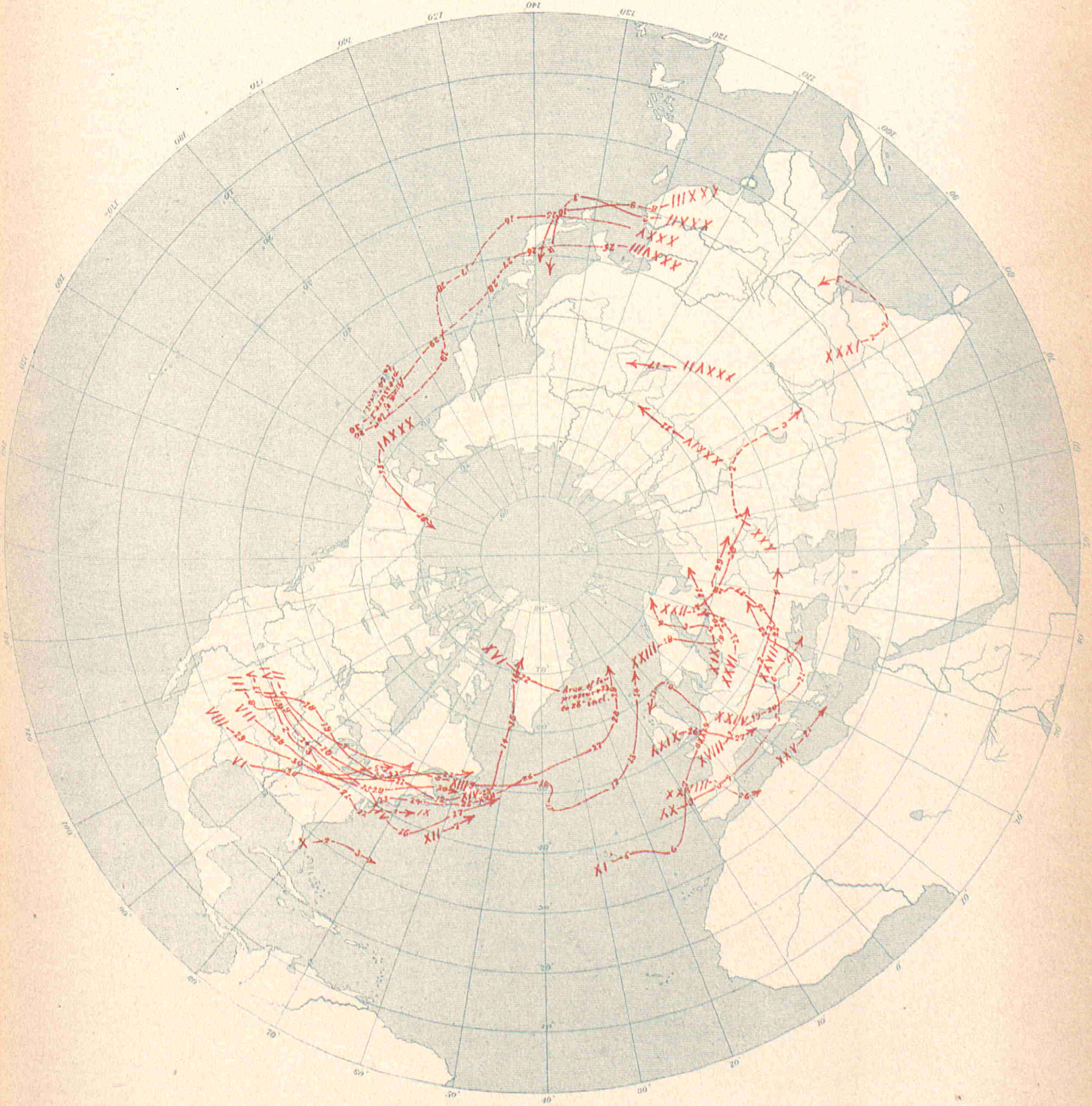


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.

Signal Office, 14th

International Chart III. May, 1883. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office 14th.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June, 1885—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—*Continued.*	
Br. s. s. Monte Rosa	Capt. W. Thos. Irving.
Peconic	John Jenkins.
Phœnix	Benj. Davis.
Piqua	W. Clayton.
Portuense	Frederick Hervs.
Rydal Water	Ch. Off. H. Cattieghan.
Romeo	Capt. W. Williams.
Sika	A. Scotland.
Strathleven	C. W Pearson.
Span. Valentia	M. Santamarina.
Br. Vindolana	Thos. Harrison.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Alsa	J. W. Sansom.
Albano	H. R. Hughes.
Alene	E. J. Selders.
Alvo	D. Williams.
Aurania	W. H. P. Hains.
Belg. Baltic	R. E. Bence.
Br. Belgenland	W. A. Beynon.
Br. Britannic	H. Perry.
Am. Celtic	Benj. Gleadell.
Am. Chalmette	Robert B. Quick.
Br. City of Alexandria	J. W. Reynolds.
City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
Am. City of Chester	H. Condron.
Br. City of Puebla	John Deakin.
Am. City of Richmond	A. W. Lewis.
Colon	Chas. C Lima.
Ger. Crescent City	Jas. L. Lockwood.
Br. Elder	H. Helmers.
Ger. Elysia	James Brown.
Br. Ems	Ch Leist.
Br. Etruria	T. Cook.
Dan. Gallia	M. Murphy.
Br. Gelser	F. V. Schierbeck.
Belg. Ivanhoe	John Cameron.
Br. Nederland	A. J. Griffin.
Dtch. Nevada	J. Douglass.
Belg. P. Caland	T. H. Bonjer.
Br. Pennland	R. Weyer.
Belg. Republic	P. J. Irving.
Am. Rhynland	J. C. Jamison.
San Marcos	Ch. off. A. B. Connor.
Fr. Saratoga	Capt. John McIntosh.
Dtch. St. Laurent	M. de Jousselin.
Br Schiedam	G. Bakker.
Servia	W. McMickan.
Belg. State of Georgia	G. Moodie.
Dtch. Switzerland	H. Buschmann.
Belg. W. A. Scholten	G. Bakker.
Waesland	J. Ueberweg.
Br. Westernland	Com. W. G. Randle.
Wisconsin	Capt. Edw. Bentley.
Wyoming	C. L. Rigby.
SAILING VESSELS.	
Am. bg. Abbie Clifford	D. W. Storer.
Am. schr. Abbie H. Gheen	W. W. Gheen.
Br. bg. Achsah	A. M. Shaw.
Ger. bk. Ada Peard	N. Hocken.
Am. sp. Agra	A. Hägemann.
It. sp. A. J. Fuller	Theo. P. Colcord.
bk. Angela Schiaffino	E. Schiaffino.
Am. Anni	B. Fortman.
bk. Antonio Sala	F. H Mitchell.

Name of vessel.	Captain.
SAILING VESSELS—*Continued.*	
Am. bg. Arcot	Capt. J. W. Cates.
Nor. bk. Artemis	E. E. Moe.
Br. bk. Artisan	J. Dwyer.
Ger. sp. Baltimore	N. Freese.
Br. bk. British Princess	F. W. Peterson.
sp. Caesarea	J. C. Barrette.
bk. Childwall	T. W. Watson.
sp. Cleomene	H. Mays.
Br. bk. Corisande	Daniel Thoms.
Christina	S. C. Witter.
Ger. bk. Cornelius	H. Windhorst.
Ger. sp. Derby	B. Fortmann.
bk. Diamant	L. Haesloop.
Br. Exile	Geo. J. Pearce.
Am. schr. Florence Rogers	Jas. S. F McLeod.
Br. bk. Francesco Garguilo	John McDonald.
Dan. Galeon	H. H Kalsboll.
Am. Gamaliel	C. S. Powell.
schr. Georgia	E. G. Coffin.
Ger. bk. George Washington	J. Probst, jr.
Am schr. George W. Lochner	J. C. Wiltbank.
Gov. Hall	John Craig, jr.
Nor. bk. Haabet	K. Olsen.
Am. sp. Henry Villard	F. B. Perkins.
Br. sp. Hermon	F. N. Marvin.
Ger. bk Ida	W Schneider.
Am. bk. Idaho	W. S. Richardson.
Br. Iodine	A. Smith.
Br. sp. Iolanthe	Geo. Scott.
Am. sc. James H Gordon	W. Lawrence.
schr. James Slater	J. L. Tooker
bkt. John J. Marsh	F. P. Whittier.
bg. John Wesley	J. H. Hines.
Ger. sp. J. W. Gildemeister	A. Lehmann.
Br. bg. Kenilworth	P. Doig.
Ger. bk. Leocadia	John Stohff.
Am. bkt. Levanter	A. F Vesper.
sp. Magellan	John W. Strout.
bg. Mary Fink	Daniel B. Darrah.
sp. Mary L. Stone	G. L. Josselyn.
Br. bk. Mistletoe	J. L. Delap.
Am. bk. Mohican	Benj. F. Berry.
schr. Nelson Bartlett	Samuel Watts.
Ger. sp. Palme	W. Bahls.
Am. bkt. Payson Tucker	Chas. Brown.
Am. sp. Rembrandt	J. W. McGilvery.
bk. Rosebud	John Collie.
Br. bk River Ganges	Thos. Nalle.
Am. sp. Saint David	W. W. Frost.
bk. Samuel B. Hale	A. S. Haven.
schr. Sarah D. J. Rawson	Thos. D. French.
bkt. Spotless	Chas E. Myrick.
schr. Stephen Bennett	William Douglas.
Br. sp. Stephen D. Horton	J. Spicer.
Am. bk. Templar	R Roberts
schr. Thomas Clyde	A. J. Biddle.
Am. bk. Tillie Baker	J H. Carty.
Br. bk. Tuck Sing	G N Ryder
Ger. sp. Union	H Fokken.
It. bk. Vincenzo Accame	N V. Lavagna.
Ger. bk. Western Chief	F Sander.
Br. sp. Winifred	R. McDonald.
BRITISH NAVAL.	
H. M. S. Alexandra	Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Agamemnon	Long.
H. M. S. Bacchante	A. W. Moore.
H. M. S Cleopatra	H. U. Hippisley.

Name of vessel.	Captain.
BRITISH NAVAL—*Continued.*	
H. M. S. Condor	Capt. W. C. H. Domville.
H. M. S. Cocktrice	J. Hayes.
H. M. Dockyard, Bermuda	Grant.
H. M. S. Espeigle	C. A. G. Bridge.
H. M. S. Flying Fish	I. P. Maclear.
H. M. S. Gad Fly	G. N. A. Pollard.
H. M. S. Lark	T. F. Pullen
H. M. S. Opal	A. T. Brooke.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Rambler	Hon. F. C. P. Vereker
H. M. S. Superb	H. F. Cleveland.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Sappho	W. M. F. Castle.
H. M. S. Turquoise	Woodward.
H. M. S. Woodlark	W. R. Clutterbuck.
PORTUGUESE NAVAL.	
H. P. M. S. Temega	José d'Almeida d'Avila.
H. P. M. S. Estepharna	F. du Costa Cabral.
SWEDISH NAVAL.	
H. S. M S. Vanadis	F. Bennet
H. S. M. S. Saga	A. Meister.
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlanden	
Leeuwarden	
Prins Hendrick der Nederlanden	
UNITED STATES NAVAL.	
Navy Yard, Pensacola	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	Geo. R Durand.
U. S. S. Constellation	
U. S. S. Enterprise	A. S. Basker.
U. S. S. Galena	T. F. Kane.
U. S. S. Hartford	E. P. Lull.
U. S. S. Independence	Fred Rodgers.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. *Juniata*	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	Chas Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsley.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June. 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I.R.Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W.I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Jos Micali, S.J.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	W. McBride, M. A.
Stratford, Ontario	T. C. Hill, C. E.
Sydney, C. B	Magnetic Observatory.
Toronto, Ontario	Prof. N. Wolverton, M. A.
Woodstock, Ontario	Lieut. F. E. Wilmot, R. N.
Yarmouth, N. S	J. Higgins.
Sub-series.	
Saint Johns, N. F	I. Garfelt.
CAPE COLONY.	
Cape St. Francis Light House	Capt. R. Gardner Warton.
Cape Town, The Castle	J. T. Eustace.
Springbok Fontein	
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Frére Eugene Marié.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermarec, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N.School	M. Jadot, Director.
Charleville, Normal School	M. Noél, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Théirot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Yamazaki.
Hiroshima	Y. Okamoto.
Kanazawa	S. Endo.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	H. Yoshino and Tanno.
Numadzu	T. Ohgi.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	C. Camina & I T Guerrero.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Liban	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Potl	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Starol Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Buchmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W.I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
SWISS.	
Geneva	The Observatory.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint.
Pointe à Pitre	M. Guesde.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JULY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
SEPTEMBER, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
City of Rome	R. D. Munro.
Columbia	Robt Thos. Garvie.
Devonia	Hugh Young.
Elysia	James Brown.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Alvo	David Williams.
Span. Andes	A. de Amezaga.
Athos	Horatio Low.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. T. Rogers.
CANADA SHIPPING Co.	
Br. s. s. Lake Nepigen	M. L. Tranmar.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Bothnia	T. Roberts.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Frank.
Europa	L. A. Kessal.
India	I. I. von Holdt.
FURNESS LINE.	
Br. s. s. Ripon City	Ch. Offi. J. Mansfield.
Stockholm City	Capt. K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Warwick	P. F. Lobbett.
GUION LINE.	
Br. s. s. Wyoming	C. L. Rigby.
Wisconsin	Edward Bentley.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.

Name of vessel.	Captain.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Capt. Fred Graham.
Dalton	J. Russell.
Donati	John P. Bevis.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas Clark.
Sirius	W. H. Stapledon.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	W. Cochrane.
Greece	Thos. Foote.
Holland	Wm. Tyson.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Diliberto.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	R. Ringk.
Elder	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	O. Heimbruch.
Habsburg	Fr. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	R. Bussius.
Nurnberg	A. Jaeger.
Rhein	Th Jüngst.
Salier	C. Wiegand.
Strassburg	H. Heincke.
Werra	J. Barre.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	J. Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Geo. W. Elder	H. S. Ackley.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Australia	R. C. Ghest.

Name of vessel.	Captain.
PACIFIC MAIL S. S. Co.—*Continued.*	
Am. City of New York	Capt. R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	W. B. Seabury.
Granada	M. Connolly.
San Blas	T Chapman.
San Jose	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S Locke.
Orinoco	J S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sliterendregt.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. J. Vis.
Zaandam	D' Hamecourt.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Gaudiana	C. W. Hanslip.
Minho	Walter Chapman.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE CROSS LINE.	
Dtch. s. s. De Ruyter	J. J. Brarens.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry
Celtic	Benj Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	Wm. Abbott.
Marengo	J. H. Malet.
Otranto	F. Kerr.
Rosario	Lieut. Rogers, R.N.R.
WINSOR LINE.	
Am. s. s. Norman	Capt. H. W. Googins.
Saxon	S. W. Snow.
MISCELLANEOUS.	
Ger. s. s. Brutus	J. A. Voege.
Br. s. s. Camden	S. R. Chandler.
Castleford	C. Gray.
Edith Godden	John H. Bennett.
Effective	H. S. Mitchelson.
Halley	H. Hammond.
Kairos	Thos. Liddle.
Ivanhoe	John Cameron.
Lord Lansdowne	C H. Baskfill.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JULY, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
SEPTEMBER, 1886.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS,

JULY, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.															
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																										
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.11	764.8	30.25	768.3	48.7	9.3	78	5	2	3	3	4	3	2	5	4	6542	10528	4	2.38	60.5
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.93	760.2	30.12	765.0	41.8	5.4	92	6	7	3	6	1	.....	.....	.....	8	.....	.....	4	0.93	23.6
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.12	765.0	30.20	767.1	45.8	7.7	86	10	2	1	3	5	4	1	4	1	.....	.....	5	1.12	28.4
Austrian.																												
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.48	748.7	29.97	761.3	80.8	27.1	42	5	4	2	2	1	10	5	2	.....	.....	.....	4	1.13	28.7
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.25	742.9	30.00	762.1	71.6	22.0	66	4	6	6	5	.....	1	4	5	.....	.....	.....	7	9.11	231.5
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.11	739.4	29.96	760.9	68.5	20.3	70	14	.....	.....	.....	2	.....	.....	.....	15	.....	.....	6	3.42	86.8
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.79	731.2	29.98	761.5	75.7	24.3	63	1	12	1	8	6	1	.....	2	.....	.....	.....	4	1.32	33.6
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.52	724.4	29.87	758.8	76.1	24.5	52	.....	9	10	3	1	2	4	2	.....	.....	.....	6	3.48	88.3
Kremsemunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.73	729 7	30.03	762 8	71.6	22.0	68	1	7	10	3	.....	.....	7	2	1	.....	.....	6	7.15	181.7
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28 96	735.6	29.92	759.9	74.5	23.6	59	5	2	8	6	2	1	1	6	.....	.....	.....	5	3.96	100.6
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.91	759.6	30.02	762.5	82.6	28.1	49	.....	2	12	3	3	6	4	1	.....	.....	.....	2	0.65	16.5
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.46	748.3	29.91	759.6	78.8	26.0	53	11	7	3	3	1	2	.....	4	.....	.....	.....	6	2.63	66.9
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.63	752 6	29.89	759.2	78.4	25.8	54	2	8	3	5	2	4	2	4	1	.....	.....	5	2.31	58.6
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.93	760.2	30.02	762.5	a79.9	a26.6	56	3	6	12	5	.....	1	1	3	.....	.....	.....	5	3.25	82.5
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.33	744.9	30.02	762.4	73.6	23.1	59	3	12	7	.....	.....	4	3	1	1	.....	.....	5	3.87	98.4
Brazilian.																												
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.97	761.2	30.15	765.8	69.6	20.9	77	2	15	4	2	1	1	2	3	1	.....	.....	6	2.72	69.0
British.																												
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	30.00	762.0	30.13	765.3	59.6	15.3	67	1	1	2	3	5	10	9	.....	.....	6154	9904	6	1.24	31.5
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.20	767.1	63.7	17.6	65	.....	4	17	3	2	2	3	.....	.....	.....	.....	5	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.60	751.8	30.14	765.5	63.2	17.3	67	2	2	8	7	5	.....	4	3	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.75	755.6	30.17	766.3	65.0	18.3	59	1	10	3	6	1	2	3	5	.....	.....	.....	7	0.77	19.6
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.99	761.7	29.95	760.7	84.7	29.3	67	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	30.03	762.7	30.17	766.3	69.2	20.7	59	3	4	3	.....	8	1	.....	12	.....	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	30.02	762 5	30.23	767.8	63.3	17.4	72	1	5	4	6	2	6	6	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.78	705.6	30.03	762.7	70.9	21.6	80	1	1	1	.....	5	4	6	13	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.66	753.4	29.82	757.4	82.0	27.8	88	4	2	5	2	9	1	7	1	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	30.08	764.0	30.13	765.3	63.4	17.4	74	2	1	4	21	.....	.....	.....	3	.....	.....	.....	5	4.50	114.3
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.06	763 5	30.10	764.5	73.6	23.1	73	4	5	3	4	.....	.....	2	13	.....	.....	.....	2	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	30.00	762.0	30.19	766.8	71.9	22.2	54	3	2	4	7	5	.....	3	7	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.92	760.0	30.23	767.8	64.3	17.9	74	3	6	8	4	.....	.....	1	9	.....	6340	10203	3	0.34	8.6
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.16	766.1	30.21	767.3	68.4	20.2	56	4	2	5	6	5	1	2	6	.....	.....	.....	5	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.90	759.4	30.18	766.6	69.8	21.0	53	.....	4	4	12	1	3	1	8	1	.....	.....	5	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.93	760.2	29.98	761.5	80.8	27.1	72	.....	17	.....	1	.....	5	.....	8	.....	.....	.....	0	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.06	763.5	30.06	763.5	85.8	29.9	76	.....	.....	1	5	1	7	16	1	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.95	760.7	30.22	767.6	68.6	20.3	56	1	5	1	9	4	.....	1	8	2	.....	.....	5	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	30.12	765.0	30.21	767.3	67.4	19.7	73	.....	7	5	4	5	1	7	.....	2	.....	.....	5	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.96	761.0	30.11	764.8	56.2	13.4	83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y a	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.77	756.1	29.83	757.7	86.4	30.2	44	7	1	.....	4	1	.....	.....	15	2	.....	.....	3	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.20	767.1	63.5	17.5	65	1	1	12	6	4	.....	3	4	.....	.....	.....	7	.....	.....
Valencia	N. 51 55	W. 10 18	11.19 a.m	23	7	30.15	765.8	30.20	767.1	62.7	17.1	76	1	3	7	14	3	.....	2	1	.....	.....	.....	8	.....	.....
Sub-series.																												
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.69	754.1	30.07	763.8	81.7	27.6	56	.....	8	7	6	4	1	1	4	.....	2788	4486	2	0	0
Canadian.																												
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.92	760.0	29.97	761.2	63.7	17.6	.....	1	.....	.....	7	2	3	.....	1	17	.....	.....	5	3.28	83.3
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.89	759.2	29.93	760.2	64.8	18.2	80	2	1	3	8	4	2	.....	3	8	3092	4976	5	3.48	88.4
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.87	758.7	29.93	760.2	61.3	16.3	89	.....	6	1	16	2	2	1	3	.....	2506	4033	6	4.78	121.4
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.69	754.1	29.88	759.0	64.0	17.8	90	1	3	1	.....	1	8	9	8	.....	.....	.....	6	3.03	77.0
Dalhousie *b*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.86	758.4	29.92	760.0	61.8	16.6	.....	.....	1	17	.....	.....	1	5	.....	5	.....	.....	6	2.32	58.9
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.87	758.7	29.90	759.4	56.3	13.5	85	1	1	7	12	1	.....	.....	7	2	.....	.....	5	2.35	59.7
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.04	737.6	29.87	758.7	56.5	13.6	93	1	5	4	4	8	4	1	2	2	6887	11083	6	2.65	67.3
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	28.90	734.1	29.96	761.0	63.4	17.4	78	2	9	4	1	2	9	1	2	2	3106	4999	6	3.61	91.7
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.91	759.7	29.96	761.0	61.4	16.3	79	4	2	1	.....	11	.....	1	1	11	5895	9487	3	1.64	41.7
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.89	733.8	29.97	761.2	61.7	16.5	98	2	4	5	.....	3	.....	2	.....	15	2930	4715	3	3.94	100.1
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.85	758.2	29.98	761.5	62.3	16.8	89	1	5	11	1	7	... ..	4	.....	2	.....	.....	5	5.86	148.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.56	750.8	29.96	761.0	65.8	18.8	86	.....	1	.....	16	.....	.....	14	.....	.....	.....	.....	4	3.26	82.8
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.60	751 8	29.92	760.0	64.0	17.8	82	4	2	3	12	6	2	1	1	.....	4042	6504	5	4.56	115.8
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.87 n	758.7 n	29 91 n	759 7 n	68.3 n	20.2 n	77 n	1	1	2	12	.....	1	.....	3	.....	.....	.....	7 l	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.08	738.6	29.96	761.0	63.8	17.7	88	1	1	4	.....	2	4	.....	1	.....	19	.....	4	3.40	86.4
Medicine Hat *a*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.62	701.5	29.86	758.4	55.6	13.2	73	3	1	5	3	7	3	5	2	2	6211	9995	3	1.60	40 6
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.04	712.2	29.84	757.9	54.7	12.6	91	2	2	7	3	.....	4	4	5	4	6886	11082	6	2.26	57.4
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.72	754.9	29.91	759.7	65.9	18 8	79	6	2	6	5	11	1	.....	.....	.....	.....	.....	5	2.84	72.1
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.67	753.6	29.92	760.0	65.0	18.3	87	5	2	2	3	4	5	7	3	.....	3620	5826	6	2.73	69.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.26	743.2	29.93	760.2	63.8	17.7	87	4	2	7	2	6	7	.....	1	2	5693	9162	4	1.45	36.8
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	64.2	17.9	82	1	2	1	.....	3	.....	1	.....	23	.....	.....	4	2.44	62.0
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.19	741.4	29.88	758.9	56.2	13.4	87	.....	.....	3	2	.....	.....	1	1	24	1950	3138	2	4.25	107.9
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.28	743.7	29.95	760.7	64.5	18.1	95	5	4	2	3	2	.....	.....	1	14	2950	4748	5	1.04	26.4
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.32	744.7	29.95	760.7	63.5	17.5	87	8	2	7	1	1	.....	5	2	.....	.....	.....	3	2.55	64.8
Qu'Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.65	702.3	29.87	758.7	54.6	12.6	86	2	7	3	6	6	.....	.....	2	5	7852	12636	6	1.30	33.0
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.56	750.8	29.92	760.0	62.8	17.1	91	.....	1	6	8	.....	1	3	5	7	.....	.....	8	2.92	74.2
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.47	748.5	29.92	760.0	60.0	15.6	88	.....	10	7	.....	.....	1	6	1	6	.....	.....	5	4.54	115.3
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.87	758.7	29.92	760.0	58.4	14.7	90	2	6	.....	.....	.....	3	9	4	7	.....	.....	1	2.89	73.4
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.83	757.7	29.96	761.0	60.7	15.9	87	4	4	1	1	13	.....	4	.....	4	.....	.....	7	2.17	55.1
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.92	760.0	59.4	15.2	.....	.....	4	8	11	.....	3	.....	3	2	.....	.....	.....	4.80	122.0
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.24	742.7	29.94	760.5	60.8	16.0	88	.....	4	7	4	10	1	1	.....	4	4755	7652	3	2.14	54.4
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.72	729.5	29.96	761.0	64.3	17.9	85	1	1	3	8	2	2	1	4	9	2770	4458	4	2.65	67.3
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.90	759.4	29.96	761.0	63.6	17.6	82	3	2	2	10	8	1	2	2	1	5421	8724	4	3.04	77.2
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.59	751.6	29.95	760.7	65.1	18.4	80	8	8	1	2	1	2	1	5	3	5659	9107	5	2.11	53.6
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.94	735.1	29.97	761.2	65.5	18.6	84	2	4	7	6	2	2	2	1	5	.....	.....	5	5.45	138.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.90	759.4	30.00	762.0	59.6	15.3	93	1	5	3	5	7	4	4	.....	2	.....	.....	4	2.28	57.9
Sub-series.																												
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.75	755.6	29.95	760.7	62.9	17.2	83	1	.....	6	7	5	6	.....	6	.....	.....	.....	6	2.26	57.4
Cape Colony																												
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.18	766.6	30.18	766.6	62.4	16.9	88	1	.....	13	6	.....	4	3	4	.....	.....	.....	3	0.96	24.4
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.11	764.8	.....	.....	62.4	16.9	63	.....	7	7	1	.....	4	.....	.....	12	.....	.....	4	2.04	51.8
Springbok *a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	28.01	711.4	.....	.....	67.4	19.7	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.07	1.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
CHILIAN.	o ′	o ′																								
Coquimbo	S. 29 56	W. 71 21	7.15 a.m.	72	22	29.95	760.6	29.98	761.6	50.9	10.5	95	2	2	.....	9	4	9	3	2	.....	.....	.....	7	0	0
Iquique	S. 20 12	W. 70 11	7.19 a.m.	26	8	30.02	762.4	29.98	761.6	57.7	14.3	75	2	2	.....	7	2	1	5	12	.....	.....	.....	1	.....	.....
Niebla	S 39 53	W. 73 25	7.06 a.m.	164	50	29.53	750.1	29.63	752.6	43.2	6.2	94	4	5	2	.....	.....	19	1	.....	.....	.....	.....	7	14.83	376.6
Punta Caldera	S. 27 03	W. 70 53	7.16 a.m.	46	14	29.94	760.5	29.98	761.5	53.6	12.0	79	2	4	.....	5	1	10	1	8	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 47	W. 73 53	7.04 a.m.	174	53	29.84	758.0	.....	.....	.....	.....	.....	4	4	5	6	2	4	.....	6	.....	.....	.....	6	8.62	219.0
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.83	757.6	30.02	762.4	47.1	8.4	83	8	2	3	1	8	7	2	.....	.....	.....	.....	5	4.17	106.0
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	135	41	29.95	760.6	30.06	763 5	49.3	9.6	87	8	.....	.....	5	12	.....	.....	6	.....	.....	.....	.....	3.60	91.3
CHINESE.																										
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	29.62	752.3	29.67	753.6	80.5	26.9	85	.....	.....	4	4	8	4	8	.....	3	.....	.....	8	13.54	143.9
Zi-Ka-Wei	N. 31 12	E.121 26	8.06 p.m.	23	7	29.71	754.5	29.69	754.1	75.0	23.9	90	3	1	1	1	.....	16	6	3	.....	.....	.....	6	3.56	90.5
DANISH.																										
Copenhagn	N. 55 41	E. 12 36	0.50 p.m.	43	13	30.02	762.6	30.10	764.6	67.3	19.6	66	9	5	1	3	9	1	1	2	.....	.....	.....	5	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	30.08	764 1	30.13	765.4	65.8	18.8	67	1	9	13	5	3	.....	.....	.....	.....	.....	.....	4	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.70	754.3	29.79	756.7	49.1	9.5	79	1	5	.....	4	5	2	7	6	1	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.88	758.9	29.94	760.5	53.1	11.7	82	.....	.....	8	10	3	4	.....	5	1	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	30.00	762.0	30.13	765.2	61.9	16.6	72	1	10	12	4	2	1	1	.....	.....	.....	.....	4	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.77	756 1	29.82	757.4	47.5	8.6	.....	9	1	.....	3	.....	3	.....	15	.....	.....	.....	7	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.49	749.1	30.13	765.3	72.1	22.3	62	1	13	3	4	.....	6	.....	2	2	.....	.....	4	1.98	50.3
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.67	753.5	30.17	766.4	72.5	22.5	60	.....	4	1	7	1	1	1	16	.....	.....	.....	.....	0.19	4.8
Arras	N. 50 18	E. 2 46	0.11 p m.	223	68	29.95	760.6	30.17	766.2	72.5	22.5	55	3	4	8	.....	.....	2	7	7	.....	.....	.....	3	0.04	1.0
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29 95	760.7	30.03	762.7	86 2	30.1	44	19	.....	1	2	4	.....	1	4	.....	.....	.....	3	0.79	20.1
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.59	751.6	30.14	765.5	74.3	23.5	55	3	.....	1	3	1	3	9	11	.....	.....	.....	5	0.94	23.9
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	29.84*h*	757.9*h*	.....	.....	75.0*c*	23.9*c*	66*c*	19*c*	1	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	2.56*c*	65.0*c*
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.17	741.0	30.04	762.9	76.3	24.6	50	3	.....	.....	5	3	2	3	15	.....	.....	.....	.....	1.16	29.4
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.85	758.1	30.10	764.5	77.4	25.2	54	8	11	2	1	1	.....	1	7	.....	.....	.....	5	0.59	14.9
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.60	751.9	30.12	765.0	77.0	25.0	47	8	4	3	.....	3	.....	.....	13	.....	.....	.....	.....	2.06	52.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.98	761.6	30.24	768 0	70.7	21.5	69	4	3	3	6	1	.....	1	12	1	.....	.....	5	0.32	8.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	.....	.....	.....	.....	72.5	22.5	63	9*a*	8	3	7	.....	.....	.....	3	.....	.....	.....	.....	0.02	0.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.85	758.3	30.17	766 3	73.4	23.0	52	3	3	7	5	2	.....	2	8	1	.....	.....	.....	1.61	41.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.64	752.9	30.17	766.4	74.1	23.4	54	1	6	4	2	1	.....	4	13	.....	.....	.....	4	1.22	31.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.78	730.9	30.08	763.9	76.3	24.6	52	19	2	2	.....	.....	1	1	6	.....	.....	.....	4	1.89	48.0
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.28	743.6	30.10	764.5	77.9	25.5	50	3	1	7	2	.....	1	.....	17	.....	.....	.....	3	1.67	42.4
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.29	744.0	30.13	765.4	70.7	21.5	67	7	11	3	.....	.....	.....	2	8	.....	.....	.....	4	1.54	39.2
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.56	700.0	30.01	762.3	84.7	29.3	42	.....	1	.....	3	1	1	.....	3	22	.....	.....	3	2.53	64.3
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.93	734.9	30.00	762.0	83.5	28.6	42	3	.....	.....	.....	5	8	12	3	.....	.....	.....	3	0.84	21.4
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.36	745.8	30.14	765.5	77.9	25.5	54	2	10	1	.....	.....	.....	1	3	14	.....	.....	.....	1.15	29.2
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.64	727.4	30.17	766.2	73.2	22.9	65	10	1	.....	8	.....	.....	1	5	6	.....	.....	.....	1.96	49.8
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.92	759.9	30.21	767 2	70.7	21.5	64	9	6	3	3	2	.....	7	1	.....	.....	.....	2	0.05	1.3
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.55	750.5	30.08	764.0	77.7	25.4	61	1	3	14	5	1	.....	2	5	.....	.....	.....	.....	3.67	93.2
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	30.10	764 4	30.21	767.3	74.3	23.5	59	5	1	2	5	5	.....	1	12	.....	.....	.....	4	0.12	3.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	29.05	737.9	30.07	763.7	78.6	25.9	46	16	4	2	.....	.....	1	.....	8	.....	.....	.....	4	0.81	20.6
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.88	758.9	30.19	766.8	72.5	22.5	64	8	2	4	2	.....	2	4	9	.....	.....	.....	4	0.23	5.8
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.76	756.0	30.02	762.4	81.5	27.5	50	.....	4	7	17	2	1	.....	.....	.....	.....	.....	.....	0.06	1.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	25.07	635.7	29.91	759.7	66.2	19.0	.....	.....	6	9	5	1	3	5	2	.....	.....	.....	4	5.24	133.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.91	759.8	30.02	762.5	86.2	30.1	53	9	4	.....	5	8	1	2	2	.....	.....	.....	1	1.24	31.4
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	24.07	611.3	.....	.....	.....	.....	.....	1	8	5	6	9	1	.....	1	.....	.....	.....	4	1.41	35.9
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.37	746.0	30.15	765.7	72.5	22.5	52	7	3	2	9	.....	2	.....	8	.....	.....	.....	.....	2.11	53.6
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	30.03	762.8	30.19	766.9	78.3	25.7	48	6	6	4	2	1	.....	3	9	.....	.....	.....	5	0.20	5.1
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.93	760.2	29.99	761.7	76.8	24.9	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	0.18	4.5
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.96	760.9	30.06	763.6	82.2	27.9	47	8	6	2	.....	1	3	6	2	3	.....	.....	2	1.34	34.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.47	545.2	.....	.....	48.4	9.1	.....	.....	.....	4	3	.....	1	1	21	.....	.....	.....	5	5.42	137.6
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.02	737 0	30.05	763.2	82.6	28.1	41	6	1	2	1	13	.....	3	4	1	.....	.....	.....	0.44	11.2
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.35	643.8	.....	.....	55.9	13.3	89	3	1	3	3	.....	2	3	16	.....	.....	.....	5	1.84	46.7
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.10	764.5	30.13	765.3	76.8	24.9	66	5	7	3	1	.....	3	3	12	.....	.....	.....	1	1.42	36.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.86	758.4	30.13	765.3	76.6	24.8	50	4	6	6	1	1	2	4	7	.....	.....	.....	.....	0.45	11.5
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.99	710.9	30.04	752.9	76.5	24.7	51	1	.....	2	6	14	2	4	.....	2	.....	.....	.....	3.89	98.7
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.13	765.4	30.19	766.9	73.2	22.9	57	2	7	5	5	.....	2	2	8	.....	.....	.....	4	0.02	0.5
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	.....	.....	30.18	766.5	73.0	22.8	50	9	6	4	2	.....	.....	.....	8	.....	.....	.....	4	0.56	14.1
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.43	747.6	30.16	766.1	79.5	26.4	56	3	18	3	.....	.....	4	1	2	.....	.....	.....	4	1.96	49.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.97	761.3	30.14	765.5	75.2	24.0	51	9	4	4	2	1	1	3	7	.....	.....	.....	.....	1.88	47.7
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.73	755.1	30.17	766.4	71.1	21.7	55	3	11	5	1	.....	.....	9	2	.....	.....	.....	4	0.68	17.3
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.99	761.7	30.14	765.5	74.8	23.8	67	3	3	8	3	1	.....	9	4	.....	.....	.....	6	3.00	76.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.69	728.8	30.11	764.7	68.4	20.2	52	6	9	2	1	.....	.....	.....	9	4	.....	.....	4	4.40	111.8
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.35	745.6	30.11	764.9	73.8	23.2	49	16	11	1	.....	.....	.....	.....	3	.....	.....	.....	5	1.85	46.9
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.95	760.6	30.12	765 0	71.4	21.9	60	6	15	3	1	.....	.....	4	2	.....	.....	.....	7	2.41	61.1
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.53	750.0	30.08	763 9	72.7	22.6	56	5	14	4	.....	3	2	1	1	1	.....	.....	7	4.56	115.7
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.67	753.7	30.14	765.5	72.0	22.2	59	3	.....	.....	3	7	.....	3	15	.....	.....	.....	5	6.10	154.8
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.41	747.0	30.14	765.6	68.5	20.3	60	11	8	1	3	3	1	1	2	1	.....	.....	7	2.06	52.2
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.75	755.7	30.17	766.2	72.9	22.7	53	12	.....	.....	5	3	.....	.....	2	9	.....	.....	5	2.52	63.9
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.71	729.1	30.08	764 0	73.0	22.8	66	4	....	2	18	2	.....	.....	5	.....	.....	.....	4	5.61	142.5
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	30.05	763 2	30.16	766.1	68.0	20.0	62	9	10	1	8	.....	.....	2	1	.....	.....	.....	6	0.51	12.9
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	30.10	764.4	30.14	765.5	66.9	19.4	61	6	8	3	3	.....	.....	1	9	1	.....	.....	5	0.49	12.4
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.69	754 1	30.12	765.0	69.6	20.9	64	4	14	2	4	1	2	2	2	.....	.....	.....	7	3.86	98.1
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.91	759.7	30.11	764.9	71.8	22.1	59	1	14	8	1	3	1	.....	3	.....	.....	.....	7	1.44	36.7
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.97	761.1	30.04	763.0	68.2	20.1	69	8	15	3	.....	1	.....	3	1	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.30	718.7	30.17	766.3	71.4	21.9	52	1	7	9	2	.....	.....	3	8	1	.....	.....	6	6.42	163.1
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.00	762.1	30.06	763.6	67.3	19.6	70	20	3	.....	.....	1	.....	3	4	.....	.....	.....	5	3.00	76.1
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.58	751 2	30.10	764.6	72.9	22.7	60	13	2	3	1	3	.....	.....	3	6	.....	.....	6	4.12	104.6
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.21	742.6	30.12	755 0	71.4	21.9	56	2	10	5	.....	.....	1	.....	13	.....	.....	.....	5	4.31	109.4
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.08	763.9	30.12	765.1	67.1	19.5	68	7	10	7	3	1	.....	1	2	.....	.....	.....	5	1.15	29.2
GREEK.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.52	749.9	29.67	758.7	86.0	30.0	51	6	1	1	5	3	3	1	11	.....	.....	.....	3	1.78	45.3
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.45	747.9	29.44	747.9	88.8	31.6	68	.....	.....	10	21.	.....	.....	.....	...	.....	.....	.....	6	0.01	0.2
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	28.98	736.2	29.39	746.4	91.6	33.1	54	.....	.....	.....	5	2)	4	.....	1	1	.....	.....	8	7.78	197.6
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.65	753.2	29.63	752.6	82.1	27.8	82	.....	1	21	8	1	.....	.....	.....	.....	.....	.....	9	21.39	543.3
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.85	707.4	29.63	752 6	77.1	25.1	73	*a*	3	20	7	.....	.....	.....	.....	.....	.....	.....	8	6.67	169.4
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.21	691.1	29.68	754.0	70.9	21.6	90	1	2	9	12	.....	.....	4	3	.....	.....	.....	10	14.37	365.0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.70	729.0	29.34	745.2	98.8	37.1	45	3	1	6	1	2	.....	2	4	12	.....	.....	3	4.50	114.3
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.57	725.7	29.40	746.8	88.2	31.2	70	.....	.....	.....	3	.....	4	3	.....	21	.....	.....	3	10.08	256.0
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.90	734.2	29.40	746.8	89.0	31.7	71	.....	6	6	6	.....	5	3	5	.....	.....	.....	7	13.50	342.9
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.52	724.5	29.49	749.0	82.7	28.2	76	3	13	8	2	1	1	... ..	.....	3	.....	.....	9	17.22	437.4
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28 18	715.7	29.45	748.0	81.9	27.7	79	.....	1	16	2	.....	1	.....	11	.....	.....	.....	8	20.27	514.8
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.07	738.3	29.39	746.4	87.1	30.6	79	6	4	7	2	3	2	.....	2	5	.....	.....	8	15.24	387.1
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	397	94	29.14	740.1	29.39	746.5	87.2	30.7	78	.....	3	1	6	1	1	4	2	13	.....	.....	8	9.37	238.0
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.29	744.0	29.42	747.4	86.1	30.1	78	2	2	4	1	8	3	11	.....	.....	.....	.....	8	13.91	353.3
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.52	699.0	29.44	747.8	79.2	26.2	81	1	5	5	3	9	4	3	1	.....	.....	.....	9	12.92	328.2
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.46	748.3	29.48	748.8	83.7	28.7	81	1	.....	3	3	2	.....	.....	.....	22	.....	.....	8	10.84	275.2
Calcutta	N. 22 33	E. 88 21	5.53 p.m	21	6	29.49	749.1	29.46	748.2	83.8	28.8	83	.....	.....	.....	1	2	13	10	3	2	.....	.....	8	8.12	206.6
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.42	747.2	29.49	749 0	82.2	27.9	86	.....	.....	.....	.....	.....	1	3	1	26	.....	.....	8	20.18	512.6
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.52	749.8	29.55	750.7	80 7	27.1	88	.....	.....	... ..	5	14	12	.....	.. ...	.....	.....	.....	8	22.89	581.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
INDIAN—Con.	° ′	° ′																										
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.23	742.4	29.51	749.5	85.3	29.6	81	.....	.....	.....	14	1	3	1	11	1	.....	.....	7	18.42	467.8
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28 07	713.1	29.42	747 3	88.5	31.4	65	2	12	5	1	.....	1	2	7	1	.....	.....	7	7.58	192.5
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.22	716.8	29.59	751.6	85.0	29.4	54	.....	1	16	13	1	.....	.....	.....	...	.....	.....	9	0.20	5.1
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.50	749.3	29.70	754.4	90.5	32.5	54	1	19	11	.....	.....	.....	.....	.....	.....	.....	.....	7	0.21	5.3
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.56	750.8	29.95	760.6	81.3	27.4	50	.....	1	2	5	5	6	3	1	8	.....	.....	4	1.91	48.6
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.52	749.7	30.01	762.2	82.8	28.2	47	2	3	7	4	6	4	3	2	.....	.....	.....	4	3.80	96.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.89	759.3	30.00	761.9	81.9	27.7	43	1	2	5	8	1	6	2	2	4	.....	.....	4	0.82	20.9
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.12	739 7	29.99	761.7	80.4	26.9	60	2	4	1	7	5	2	6	4	.....	.....	.....	4	4.41	111.9
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.84	757.9	30.02	762.6	79.0	26.1	66	1	.....	.....	5	4	21	.....	.....	.....	.....	.....	2	0.75	19.1
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.98	761.5	30.02	762.6	79.2	26.2	61	3	3	2	11	2	2	1	7	.....	.....	.....	3	0.15	3.9
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.75	755.7	30.00	761.9	84.2	29.0	37	3	.....	.....	.....	2	7	10	9	.....	.....	.....	3	2.56	65.0
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.97	761.1	30.05	763.2	80.1	26.7	63	.....	.....	.....	.....	.....	5	23	3	.....	.....	.....	3	3.30	83.8
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.83	757.6	30.00	761.9	86.5	30.3	38	2	.....	.....	.....	3	12	12	2	.....	.....	.....	3	0.11	2.9
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.72	755.0	29.97	761.1	81.5	27.5	43	7	14	1	1	1	.....	.....	7	.....	.....	.....	1	0.03	0.8
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.12	739.6	29.97	761.1	84.4	29.1	65	.....	.....	2	10	2	1	9	7	.....	.....	.....	3	0.51	13.0
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.80	755.9	30.04	763.0	83.8	28.8	51	.....	21	10	.....	.....	.....	.....	.....	.....	.....	.....	2	0.18	4.6
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.90	759.5	29.95	760.6	82.6	28.1	64	4	7	7	2	7	4	.....	.....	.....	.....	.....	3	0.20	5.2
Sub-Series.																												
Naples *a*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.50	749 4	.....	.....	81.3	27.4	58	.....	.....	6	15	1	.....	4	3	.....	.....	.....	2	0.42	10.8
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	22 37	568 1	.....	.....	51.8	11.0	69	.....	2	9	4	1	1	2	12	.....	.....	.....	6	2.64	67.1
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.39	568.8	.....	.....	53.6	12.0	75	2	3	5	9	2	3	2	5	.....	.....	.....	8	2.78	70.5
JAPANESE.																												
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.83	757.7	29.85	758.2	67.9	20.0	89	3	3	7	1	1	1	3	.....	12	.....	.....	8	8.58	217.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.84	758.1	29.87	758 7	63.5	17.5	87	13	2	5	1	1	1	5	.....	3	e3444	e5542	8	3.50	88.9
Hakodate	N 41 46	E.140 44	9.23 p.m.	10	3	29.87	758.8	29.88	758.9	59.8	15.4	92	1	.....	3	.....	7	6	9	.....	5	5843	9402	8	3.86	97.4
Hamamtsu	N. 34 42	E.137 43	9.23 p.m.	92	28	29.78	756.4	29.85	758.2	73.0	22.8	92	.....	1	10	.....	1	1	4	2	12	.....	.....	5	8.20	208.2
Kanazawa	N. 36 33	E.136 92	9.07 a.m.	95	29	29.75	755.6	29.83	757.7	71.1	21.7	87	.....	1	3	1	6	2	5	7	6	3625	5833	8	14.31	363.6
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.85	758 2	29.83	757.7	75.2	24.5	82	2	9	1	3	4	2	3	2	5	.....	.....	4	5.59	141.9
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.68	754.0	29.83	757.7	74.6	23.7	81	7	2	2	3	.....	.....	3	8	6	2489	4004	6	6.86	174.0
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.86	758.3	29.85	758.2	76.0	24.4	89	.....	1	4	.....	3	9	9	4	1	5291	8515	6	4.74	120.5
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.85	758 1	29.84	757.9	76.2	24.5	88	7	.....	8	.....	4	.....	12	.....	.....	.....	.....	5	6.02	152.8
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.79	756.7	29.89	759.2	61.6	16.5	95	5	1	2	5	1	.....	.....	2	15	1101	1772	7	10.95	278.1
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.64	752.9	29.81	757.2	75.2	24.0	84	4	...	.....	8	9	4	3	1	2	4509	7256	5	5.90	149.6
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.86	758.4	29.91	759.7	53.6	12.0	97	2	1	.....	1	8	4	7	2	6	3240	5214	8	3.34	85.0
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.82	757.3	29.83	757.7	69.8	21.0	89	7	.....	.....	5	1	4	.....	8	6	4488	7223	8	6.16	156.5
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.86	758.4	29.85	758 2	66.7	19.3	91	5	2	2	2	9	4	3	3	3	5767	9281	8	4.90	124.6
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.84	757.8	29.84	757 9	74.0	23.3	84	1	4	4	9	4	4	5	.....	.....	.....	.....	8	7.58	192.4
Osaka	N. 34 41	E.135 30	9.02 p.m.	46	14	29.81	757.1	29.83	757.7	76.1	24.5	81	2	.....	18	5	.....	1	3	2	.....	8870	14275	6	4 42	112.2
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.83	757.6	29.82	757.4	72.6	22.6	85	1	1	9	.....	1	1	8	5	5	.....	.....	7	9.42	239.3
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.70	754.3	29.81	757.2	72.9	22.7	87	1	.....	1	2	1	1	6	7	12	.....	.....	5	4.81	122.3
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.79	756.8	29.85	757.2	72.2	22.4	88	2	.....	2	3	15	2	6	1	.....	6227	10021	7	5.61	142.5
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.80	756.7	29.82	757.4	76.3	24.6	80	1	.....	1	.....	7	.....	.....	.....	22	2545	4096	5	4.77	121.2
MAURITIUS.																												
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.99	761.7	30.12	765.0	71.6	22.0	67	1	.....	1	1	.....	9	18	1	.....	.....	.....	5	2.18	55.4
MEXICAN.																												
Guanajuato *d*	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.73	602.8	29.92	759.9	60.1	15.6	78	8	8	.....	1	.....	1	.....	9	.....	.....	.....	6	7.55	191.7
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.38	619.2	29.97	761.2	60.1	15.6	84	2	13	6	5	3	1	1	.....	.....	.....	.....	10	4.05	102.9
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.68	753 8	29.94	760.3	79.0	20.1	79	.....	6	2	.....	.....	.....	5	10	8	.....	.....	4	3.03	77.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.15	588.0	30.15	765.7	54.7	12.6	80	2	3	1	.....	.....	.....	.....	25	.....	.....	.....	7	3.41	86.5
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.48	595 4	30.12	765.2	62.1	16.8	69	5	7	.....	.....	.....	.....	1	...	4	14	.....	4	8.40	213.2
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.60	574.0	30.16	766.2	55.9	13.3	77	.....	.....	.....	4	1	6	12	8	.....	.....	.....	4	4.12	104.7
NETHERLANDS.																												
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.19	766.8	30.21	767.3	68.4	20.2	.....	7	2	6	6	1	1	2	6	.....	.....	.....	.....	0.11	2.9
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	30.10	764.5	30.17	766.4	66.7	19.3	.....	9	1	4	4	1	1	4	7	.....	.....	.....	.....	0.86	21.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.17	766.3	30.19	766.8	63.7	17.6	.....	8	4	2	10	.....	.....	.....	7	.....	.....	.....	.....	0.94	24.0
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30 18	766 6	30.20	767 1	68.7	20.4	.....	6	3	9	4	...	.....	3	5	1	.....	.....	.....	0.01	0.2
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	30.13	765.3	30.20	767.0	70 3	21.3	.....	11	4	4	6	3	.....	1	2	.....	.....	.....	6	0.20	5.2
Sub-Series.																												
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.94	760.4	80.4	26.9	78	.....	.....	.....	.....	.....	.....	5	17	9	.....	.....	4	0.01	0.3
NORWEGIAN.																												
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	30.01	762.3	30.11	764 9	58.3	14.6	73	1	10	6	1	11	2	.....	.....	.....	.....	.....	6	6.00	152.3
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.95	760.7	30.04	763.0	55.9	13.3	73	13	2	3	9	.....	.....	.....	3	1	.....	.....	7	4.27	108.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.86	758.4	30.04	763 0	08.9	20.5	46	2	3	1	7	13	1	3	1	.....	.....	.....	5	2.01	51.0
Gjesvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.91	759.6	29.99	761.8	52.3	11.3	.....	2	.....	6	6	1	4	1	5	6	.....	.....	7	2.49	63.3
PORTUGUESE.																												
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.10	764.4	30.15	765.8	72.0	22.2	65	.....	.....	.....	27	1	2	.....	...	1	.....	.....	4	0.02	0.5
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.74	755.4	30.05	763 3	71.6	22.0	61	6	4	2	7	7	2	2	1	.....	.....	.....	3	Inap.	Inap.
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.25	768.3	30.30	769.6	75.2	24 0	64	4	1	2	2	4	8	1	5	4	.....	.....	4	0.28	7.2
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	33	10	29.95	760.6	29.91	759.8	78.8	26.0	66	6	.....	.....	.....	.....	.....	11	14	...	.....	.....	5	0.05	1.2
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.10	713.7	29.85	758.1	82.0	27.8	52	.....	1	9	7	1	.....	.....	.....	13	.....	.....	2	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.42	645.6	29.99	761.8	63.7	17.6	59	1	.....	2	1	.....	1	25	1	.....	.....	.....	4	2.67	67.8
RUSSIAN																												
Akmolinski *e*	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.61	726.7	29 66	753.4	70.9	21.6	42	4	1	1	.....	3	1	4	10	2	.....	.....	5	2.91	73.9
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.98	761.6	30.05	763.3	73.4	23.0	49	3	6	2	2	5	3	2	5	3	.....	.....	5	0.46	11.8
Astrakhan	N.46 21	E. 48 02	3.12 p.m.	69	21	29.96	761.0	29.89	759.2	80.9	30.5	32	5	1	1	5	3	7	7	1	1	.....	.....	2	0	0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	29.89	759.3	29.84	757.9	82.9	28.3	57	9	.....	.....	.....	10	3	2	4	3	.....	.....	3	0.20	5.0
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.22	742 3	29.72	754.9	70.2	21.2	52	6	7	.....	5	1	.....	.....	9	3	.....	.....	7	1.24	31.5
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.75	755 6	30.01	762.2	75.9	24.4	56	3	1	3	2	5	8	4	4	1	.....	.....	6	5.11	129.7
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.01	736.9	29.97	761.2	69.1	20.6	52	4	4	1	3	2	.....	4	9	4	.....	.....	6	1.49	37.9
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.43	747.6	29.87	758.7	85.5	29.7	40	2	5	2	3	1	6	5	4	3	.....	.....	7	3.74	94.9
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.47	748.6	29.65	753.1	82.6	28.1	32	7	9	5	2	.....	1	2	5	.....	.....	.....	3	0.11	2.9
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.73	755.1	30.01	762.2	80.2	26.8	40	5	5	2	4	2	2	4	6	1	.....	.....	4	0.03	0.7
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.96	761.0	30.06	763.5	68.0	20.0	61	1	2	4	2	2	8	5	6	1	.....	.....	6	1.33	33.7
Kertch *a*	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.82	757.3	29.84	757.9	82.0	27.8	52	3	1	.....	.....	3	2	9	7	5	.....	.....	4	0.65	16.5
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.30	744.2	29.89	759.2	82.6	28.1	54	5	5	1	4	3	8	1	2	2	.....	.....	5	4.52	115.1
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.43	747.5	29.92	760.0	84.7	29.3	40	1	2	2	1	3	5	6	9	2	.....	.....	5	0.44	11.3
Lgov	N 51 41	E 35 17	2.21 p.m.	535?	163?	29.38	746 1	29.94	760.5	84.2	29.0	37	.....	3	2	2	1	8	12	1	2	.....	.....	4	0.44	11.2
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.98	761.5	30.03	762.7	65.7	18.7	72	7	12	5	4	.....	.....	2	1	.....	.....	.....	5	3.17	80.5
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.69	754.0	29.89	759 2	87.4	30.8	27	2	1	1	1	4	2	8	12	.....	.....	.....	6	1.96	49.7
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.50	749.4	29.97	761.2	81.9	27.7	44	1	2	2	5	3	2	9	1	6	.....	.....	4	0.42	10.7
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.64	702.1	29.83	757.7	70.0	21.1	59	.....	.....	.....	.....	.....	3	.....	1	27	.....	.....	5	1.76	44.6
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.77	756.1	29.84	757 9	87.6	30.9	42	3	2	1	2	2	.....	5	5	11	.....	.....	4	1.98	50.2
Nikolaievsk *d*	N. 53 08	E.140 45	9.23 p.m.	59	18	29.73	755.1	29.84	757.9	59.9	15.5	84	2	.....	.....	.....	.....	7	6	5	7	.....	.....	6	.....	.....
Nikolsk *a*	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.67	753.5	30.13	765.3	77.4	25.2	49	6	2	.....	1	2	7	3	0	3	.....	.....	6	2.85	72.5
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.43	747.4	29.74	755.4	87.1	30.6	25	3	10	11	.....	2	2	.....	2	1	.....	.....	4	0.02	0.4
Petroznvodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.80	757.0	30.03	762.7	74.8	23.8	55	1	1	.....	5	1	13	4	6	.....	.....	.....	4	1.52	38.7
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.43	747.6	29.93	760.2	77.7	25.4	55	6	3	2	.....	2	2	3	2	11	.....	.....	5	5.02	127.6
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.78	756.3	29.80	756.9	82.2	27.9	83	.....	5	2	10	1	1	1	.....	1	.....	.....	3	2.82	71.6
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.96	761.1	30.03	762.7	76.1	24.5	52	1	11	4	1	6	5	.....	3	.....	.....	.....	4	3.40	86.3
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.35	694.7	29.66	753.4	82.9	28.3	42	.....	4	1	.....	.....	2	1	.....	23	.....	.....	2	0.01	0.2
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.01	736.9	29.64	752 8	75.4	24.1	40	10	2	6	1	1	.....	2	1	8	.....	.....	4	1.01	25.7
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.59	751.6	29.79	756.7	83.3	28.5	46	1	11	6	10	.....	1	1	.....	.....	.....	.....	4	3.08	78.3
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.36	745.8	29.90	759.4	83.5	28.6	46	.....	1	1	2	2	11	9	5	.....	.....	.....	7	1.88	47.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
RUSSIAN—Con.	° ′	° ′																							0-10		
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.12	714.1	29.65	753.1	87.1	30.6	35	2	5	2	8	1	.....	1	1	11	.....	.....	3	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.44	722.3	29.75	755.6	88.2	31.2	25	....	3	1	.....	8	15	2	1	1	.....	.....	4	0.32	8.0
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.56	750.7	29.98	761.5	72.9	22.7	63	6	8	4	2	3	1	1	2	4	.....	.....	7	5.16	131.0
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.55	750.6	29.85	758.2	72.5	22.5	60	1	2	.....	2	1	7	6	1	11	.....	.....	6	4.17	105.9
Sub-Series.																												
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.39	746.5	29.89	759 2	82.4	28.0	43	3	2	6	3	6	5	3	3	.....	.....	.....	4	0.72	18.3
SPANISH.																												
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.92	760 0	30.09	764.3	76.5	24.7	64	.....	.....	.....	1	17	3	10	.....	.....	.....	.....	3	0.67	17.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.06	763.6	30.12	765.1	77.4	25.2	66	....	15	.....	1	1	6	2	1	5	1164	1874	6	5.19	131.8
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.19	690.5	30.04	763.0	72.5	22.5	62	1	.....	3	1	4	.....	8	14	.....	4868	7834	3	2.83	71.8
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.87	708.0	29.99	761.7	83.1	28.4	43	.....	.....	.....	6	4	2	8	5	6	6705	10791	4	4.70	119.4
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.17	740.8	30.05	763.2	75.6	24.2	59	8	2	.....	3	.....	1	1	14	2	8664	13943	5	1.65	41.8
Sub-Series.																												
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	30.01	762.2	30.02	762.5	79.2	26.2	82	.....	.....	.....	.....	2	12	16	1	.....	.....	.....	2	0.59	14.9
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.82	757.3	29.80	756.9	81.3	27.4	81	.....	2	10	11	1	2	4	1	.....	7548	13979	6	12.40	314.9
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.98	761.5	30.06	763.5	77.8	25.4	56	.....	...	16	4	1	.....	10	.....	.....	.....	.....	3	0	0
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	30.00	762.0	30.03	762.8	81.5	27.5	80	.....	.....	.....	.....	3	12	9	1	6	.....	.....	4	3.67	93.2
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.92	760.0	30.01	762.3	63.3	17.4	65	3	3	1	10	6	3	.....	4	1	.....	.....	5	1.84	46.7
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.93	760.3	30.03	762.8	64.6	18.1	60	1	4	1	7	12	.....	2	4	.....	.....	.....	6	1.80	45.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.93	760.1	30.02	762.5	65.3	18.5	59	4	5	1	3	9	3	1	4	1	.....	.....	4	2.41	61.3
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.83	757.6	30.04	763 0	67.8	19.9	57	6	3	4	3	4	1	1	8	.....	.....	.....	4	1.18	30.0
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.92	759.9	30.01	762.2	63.7	17.6	71	9	7	5	3	.....	.....	.....	7	.....	.....	.....	3	1.00	25.5
Sub-Series.																												
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.90	759.4	30.02	762 6	66.0	18.9	65	7	5	2	8	6	3	.....	.....	.....	.....	.....	6	2.44	62.1
TURKISH.																												
Constantinople	N. 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.86	758.4	79.9	26.6	53	14	3	.....	6	.....	.....	.....	8	.....	.....	.....	4	0.82	20.9
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.17?	766.4?	81.1	27.3	.....	.....	15	8	7	.....	.....	1	.....	.....	.....	.....	1	0.24	6.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.74	755.5	86.0	30.0	57	.....	.....	16	15	.....	.....	.....	.....	.....	.....	.....	1	0	0
UNITED STATES.																												
New Eng'd states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.88	758.9	29.95	760.7	60.2	15.7	83	4	1	.....	3	8	1	3	1	10	2930	4715	4	1.99	50.5
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.84	757.9	29.94	760.5	66.2	19.0	83	7	3	10	2	5	1	3	.....	.....	4627	7446	5	5.63	143.0
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.88	606.5	29.95	760.7	46.8	8.2	89	2	13	5	5	2	.....	1	3	.....	20500	33027	3	11.34	288.0
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.84	757 9	29.96	761.0	69.2	20.7	73	3	6	4	5	1	3	1	2	6	5911	9513	4	1.44	36.6
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.96	761.0	29.98	761.5	68.5	20.3	87	2	2	4	8	4	2	.....	8	1	7612	12251	4	0.86	21.8
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.96	761.0	30.00	762.0	69.9	21.1	80	7	4	2	2	4	3	1	1	7	4085	6574	3	2.67	67.8
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.88	758.9	29.98	761.5	68.3	20.2	81	4	5	3	.....	7	2	.....	5	5	4127	6642	4	2.51	63.8
Mid. Atlan. states.																												
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.90	759.4	29.98	761.5	68.3	20.2	72	4	3	1	14	4	....	.....	4	1	4724	7602	4	1.98	50.3
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.82	757.4	29.98	761.5	70.5	21.4	80	4	6	5	4	2	3	.....	7	.....	5224	8407	4	3.04	77.2
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.87	758.7	29.98	761.5	71.7	22 1	76	4	5	6	4	1	1	5	4	1	6219	10008	4	2.39	60.7
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.97	761.2	29.99	761.7	70.1	21.2	84	1	4	5	5	4	4	3	5	.....	8422	13554	4	3.54	89.9
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.96	761.0	29.96	761.0	71.9	22.2	89	7	.....	2	8	3	1	4	6	.....	5650	9093	5	4.45	113.0
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	29.96	761.0	29.97	761.2	73.8	23.2	80	5	.....	7	4	1	4	4	5	1	8437	13578	4	1.90	48.3
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	29.94	760.5	29.95	760.7	72.0	22.2	88	2	1	3	6	5	4	5	5	.....	7482	12041	4	1.57	39.9
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.95	760.7	29.98	761.5	75.1	23.9	71	5	5	4	6	4	1	4	5	1	3740	6019	5	2.67	67.8
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.90	759 4	29.99	761.7	72.5	22.5	80	4	5	.....	4	3	3	1	4	7	3182	5121	4	3.03	77.0
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.98	761.5	29.97	761.2	74.8	23.8	86	2	2	1	5	7	3	6	4	1	5055	8135	3	3.28	83.3
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.00	762.0	30.00	762 0	74.4	23.6	69	.....	3	1	16	5	.....	1	4	1	7342	11816	3	2.89	73.4
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.35	745.5	30.00	762 0	72.5	22.5	79	1	4	5	9	2	2	1	1	6	1962	3158	4	4.26	108.2
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.97	761.2	29.98	761.5	76.7	24.8	78	3	4	4	13	2	1	2	1	1	4527	7285	4	3.22	81.8
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.02	762.5	30.00	762.0	77.2	25.1	83	4	1	11	10	1	1	1	2	.....	8147	13101	3	0.94	23.9
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.02	762.5	30.00	762.0	76.9	24.9	86	2	2	7	11	2	1	1	3	2	5831	9384	4	3.80	96.5
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.03	762.7	30.01	762.2	78.0	25.6	91	2	3	3	13	3	4	.....	3	.....	9730	15659	4	5.31	134.9
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.00	762.0	30.01	762.2	78.5	25.8	85	1	3	8	7	2	1	4	5	.....	7885	12689	5	2.31	58.7
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	29.92	760.0	30.02	762.5	77.8	25.4	82	1	4	9	8	1	2	3	3	.....	3971	6391	5	4.04	102.6
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.21	741.9	30.01	762.2	73.7	23.2	81	6	2	1	10	1	3	2	3	3	2286	3679	5	6.31	160.3
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.00	762.0	30.02	762.5	78.4	25.8	84	2	2	6	12	.....	.....	1	3	4	3975	6397	6	7.49	189.7
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.88	758.9	30.03	762.7	74.9	23.8	86	3	1	3	6	7	2	2	6	1	2256	3631	5	3.69	93.7
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.98	761.5	30.03	762.7	79.6	26.4	78	5	1	8	12	1	4	.....	.....	.....	4450	7162	4	7.88	200.2
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.03	762.7	30.04	763.0	79.7	26.5	82	.....	1	2	17	7	2	.....	2	.....	4811	7742	4	7.16	181.9
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.03	762 7	30.01	762.2	80.9	27.2	83	.....	1	6	4	2	5	5	3	5	4571	7356	6	9.17	232.9
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.07	763.8	30.04	763.6	83.9	28.8	74	.....	.....	.....	5	3	7	12	3	1	5103	8212	6	3.15	80.0
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.06	763.5	30.06	763.5	78.2	25.7	88	.....	1	2	10	6	3	.....	3	6	2971	4781	2	5.52	140.2
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.91	734.3	30.03	762.7	72.9	22.7	86	.....	7	8	8	2	3	.....	3	.....	4827	7768	3	4.02	102.1
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.03	762 7	30.01	762.2	78.2	25.7	84	7	8	.....	7	2	1	1	2	3	4143	6667	5	2.41	61.2
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.03	762.7	30.03	762.7	75.2	24.0	89	6	13	2	2	.....	1	.....	1	6	3964	6377	5	3.81	96.8
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.84	757.9	30.03	762.7	75.0	23.9	88	5	5	1	3	3	.....	4	2	8	2862	4606	6	7.54	191.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.85	758.2	30.04	763.0	75.5	24.2	86	3	.....	.....	1	12	.....	1	3	11	2730	4393	4	6.61	167.9
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.00	762.0	30.02	762.5	79.6	26.4	83	1	2	3	6	1	10	4	1	3	3517	5660	3	6.15	156.2
West Gulf states.																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.82	757.4	30.02	762.5	75.8	24.3	89	1	1	1	5	16	3	2	.....	1	2824	4545	3	4.89	124.2
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.53	750.0	29.98	761.5	73.5	23.1	94	.....	.....	.....	1	.....	.....	18	3	8	2279	3668	4	2.48	63.0
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.70	754.4	29.97	761.2	76.0	24.4	88	2	1	1	8	2	3	.....	.....	14	2142	3447	4	1.13	28.7
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.02	762.5	30.02	762.5	81.9	27.7	80	1	2	6	3	18	.....	.....	1	.....	5699	9172	4	2.20	55.9
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.00	762.0	29.99	761.7	78.8	26.0	90	.....	2	6	9	11	3	.....	.....	.....	7297	11743	4	2.08	52.8
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.21	741.9	29.96	761.0	72.9	22.7	94	1	1	.....	.....	3	15	1	1	9	2805	4514	6	6.56	166.6
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.96	761.0	29.97	761.2	77.7	25.4	94	.....	.....	.....	2	17	7	1	.....	4	6237	10037	3	0.22	5.6
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.80	756.9	29.95	760.7	77.1	25.1	86	.....	.....	.....	.....	.....	28	1	.....	2	6368	10248	2	1.28	32.5
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.24	742 7	30.01	762.2	72.2	22.3	92	3	4	6	11	2	1	.....	2	2	3221	5184	5	4.86	123.4
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.05	737.9	30.03	762.7	69.9	21.1	90	5	.....	1	9	....	1	2	6	7	2834	4561	4	4.00	101.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.71	754.6	30.01	762.2	77.1	25.1	84	2	3	4	3	9	2	3	1	4	3264	5253	4	4.80	121.9
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.47	748.5	30.01	762.2	73.1	22.8	86	1	3	4	5	5	4	5	4	.....	3111	5007	4	5.26	133.6
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.46	748.3	30.01	762.2	73.7	23.2	80	8	3	.....	7	9	1	.....	1	2	4478	7206	3	2.01	51.1
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.09	738.9	29.99	761.7	69.5	20.8	87	4	1	3	12	5	1	1	4	.....	3060	4924	4	4.22	107.2
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.22	742.2	29.99	761.7	69.6	20.9	85	3	4	3	7	6	1	.....	5	2	3204	5156	4	1.43	36.3
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.36	745.7	29.99	761.7	70.7	21.5	80	1	5	3	4	1	10	1	3	3	4278	6885	4	1.40	35.6
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.16	740.7	29.98	761.5	70.4	21.3	83	5	4	2	9	4	3	2	2	.....	3701	5956	4	3.28	83.3
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.19	741.4	29.98	761.5	69.8	21.0	79	.....	6	4	4	6	1	2	1	7	3708	5967	6	2.49	63.2
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.31	744.5	29.95	760 7	65.3	18.5	86	.....	3	6	15	1	2	.....	2	2	5825	9374	6	2.74	69.6
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.24	742.7	29.95	760.7	66.4	19.1	85	3	2	5	8	6	2	3	2	.....	6385	10275	4	3.63	92.2
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.59	751.6	29.94	760 5	64.9	18.3	81	1	1	10	2	10	5	.....	2	.....	5760	9270	5	4.89	124.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.26	743 2	29.96	761.0	69.2	20.7	73	3	4	1	6	8	2	4	3	.....	6146	9891	4	2.03	51.6
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.32	744 7	29.97	761.2	70.6	21.4	75	1	2	4	12	3	3	3	.....	.....	7683	12364	5	3.08	78.2
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.27	743.4	29.98	761.5	67.5	19.7	85	3	2	2	8	1	11	1	3	....	5487	8830	4	4.48	113.8
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.31	744.5	29.98	761.5	70.4	21.3	80	4	5	7	7	2	.....	2	4	.....	5674	9131	4	2.49	63.2
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.29	744.0	29.97	761.2	68.9	20.5	80	5	5	2	9	3	3	2	2	.....	5933	9548	3	2.83	71.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for July, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. STATES—Con.																												
Upper lake region.	° ′	° ′																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.30	744.2	29.94	760.5	61.0	16.1	85	.....	5	13	5	2	5	1	.....	.....	6226	10020	3	2.52	64.0
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	613	187	29.26	743.2	29.90	759 4	62.6	17.0	76	10	5	3	1	6	5	.....	1	5674	9131	4	2.14	54.4
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744.5	29.95	760 7	64.1	17.8	82	1	3	4	2	5	5	4	2	5	6127	9860	6	3.13	79.5
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.30	744 2	29.94	760.5	62.6	17.0	81	2	4	9	1	.....	5	2	1	7	5067	8154	4	3.55	90.2
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.19	741.4	29.90	759.4	61.4	16.3	78	.....	4	3	5	2	5	3	3	6	4844	7795	4	1.85	47.0
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.30	744 2	29.96	761.0	65.5	18.6	84	2	2	3	5	9	2	3	4	1	5031	8096	3	3.00	76.2
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	23.28	743.7	29.96	761.0	69.2	20.7	80	3	3	3	4	7	2	.....	1	8	4233	6812	4	2.44	62.0
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.22	742.2	29.94	760.5	64.4	18.0	86	0	3	5	7	3	2	2	3	.....	6363	10240	6	4.23	107.4
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.19	741.4	29.90	759.4	62.1	16.7	75	1	12	1	5	.....	4	.....	5	3	3995	6429	6	3.40	87.9
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.04	737.6	29.91	759.7	66.6	19.2	91	4	4	5	1	9	7	.....	1	.....	4492	7229	6	5.86	148.8
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.17	740.9	29.90	759.4	68.7	20.4	82	3	5	3	5	10	1	1	1	2	4838	7786	5	8.51	216.1
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.33	745.0	29.95	760.7	69.5	20.8	81	3	1	4	9	7	1	2	4	.....	5573	8969	5	1.66	42.2
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.08	738.6	29.94	760.5	68.6	20.3	86	4	1	4	6	4	2	3	1	6	3501	5634	6	6.55	166.1
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.27	743.4	29.93	760.2	68.0	20.0	84	3	2	2	4	8	2	1	1	8	3137	5048	5	6.35	161.3
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.34	745.2	29.96	761.0	72.3	22.4	83	2	1	5	7	6	4	4	.....	2	4833	7778	4	2.29	58.2
Cairo.b	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.65	753.1	30.00	762.0	75.0	23.9	85	4	3	3	2	10	3	4	1	1	3884	6250	4	0.82	20.8
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.36	745.7	29.98	761.5	72.5	22.5	76	.....	2	3	4	2	.....	2	.....	18	3522	5668	5	1.82	46.2
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.41	747.0	29.98	761.5	74.9	23.8	86	1	3	2	10	5	3	2	5	.....	5119	8238	4	2.58	65.5
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.10	739.1	29.94	760.5	71.6	22.0	84	1	1	.....	1	13	3	.....	3	10	4315	6944	5	4.56	115.8
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.82	732 0	29.94	760.5	71.1	21.7	84	3	5	.....	1	13	5	.....	1	3	5527	8895	5	9.24	234.7
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.36	720 3	29.90	759.4	65.1	18.4	79	8	5	2	1	8	4	2	1	.....	6596	10615	5	1.55	39.4
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.55	725.2	29.87	758.7	63.6	17.6	89	4	2	.....	4	7	3	4	2	5	5738	9234	4	4.52	114.8
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.65	727.7	29.91	759.7	66.0	18.9	88	2	3	6	3	2	4	2	2	7	3496	5626	5	1.97	50.0
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.96	735 6	29.98	761.5	71.0	21.7	91	2	.....	1	2	18	4	3	1	.....	6077	9780	4	7.75	196.8
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.90	734.0	29.86	758.4	61.5	16.4	92	7	3	3	2	6	5	2	2	1	6466	10406	6	3.34	84.8
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.02	737.1	29.87	758.7	57.5	14.2	94	3	7	4	3	4	8	1	.....	1	5340	89594	5	3.82	97.0
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.11	714 0	29.84	757.9	60.9	16.1	80	10	3	4	.....	2	3	4	2	3	5884	9469	5	2.41	61.2
Fort Buford.c	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.90	708.6	29.87	758.7	58.7	14.8	85	.....	5	5	2	1	1	5	7	.....	6093	9806	6	3.02	76.7
Fort Totten.c	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.29	718.6	29.84	757.9	60.4	15.8	85	3	5	2	3	4	5	.....	2	4	6964	11207	5	5.83	148.1
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.16	689.9	29.91	759.7	56.0	13.0	72	4	4	5	9	4	2	.....	3	.....	7174	11545	4	1.56	39.6
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.26	692.4	29.96	761.0	56.0	13.0	76	.....	3	6	8	.....	.....	.....	4	10	4178	6724	4	2.82	71.6
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.86	682 2	29.88	758.9	58.0	14.4	75	4	3	1	5	1	5	8	4	.....	7004	11272	5	0.85	21.6
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.62	650.7	29.93	760.2	55.9	13.3	66	10	6	6	.....	3	2	2	2	.....	7203	11592	5	0.88	22.4
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.38	670.0	29.90	759.4	56.1	13.4	70	1	3	22	1	.....	.....	1	3	.....	3962	6376	4	2.57	65.3
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.77	657.1	29.88	758.9	55.8	13.2	67	3	5	9	8	2	.....	1	2	2	4510	7258	3	1.16	29.5
Poplar River.f	N. 48 08	W. 105 10	4.59 a.m.	2030	619	27.78	705 6	29.85	758.2	57.3	14.1	84	3	2	8	1	.....	3	2	1	1	5997	9651	4	3.05	77.5
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.44	646.2	29.87	758.7	59.2	15.1	75	1	.....	.....	17	2	2	1	6	2	3402	5475	3	1.44	36.6
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.11	612.4	29.81	757.2	55.7	13.2	75	2	16	6	3	2	.....	.....	1	1	6571	10575	3	1.92	48.8
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27 09	688.1	29.87	758.7	64.1	17.8	90	.....	3	2	1	3	6	7	2	7	5778	9299	6	3.12	79.2
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	18.08	459.2	29.85	758.2	35.4	1.9	79	7	7	5	8	.....	.....	4	.....	.....	9523	15326	3	2.67	67.8
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.50	723.9	29.89	759.2	68.7	20.4	91	.....	2	1	7	8	2	2	6	3	6110	9833	6	4.90	124.5
Denver.a	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.84	630.9	29.84	757.9	59.8	15.4	72	3	2	2	4	19	.....	.....	.....	.....	5077	8170	3	1.33	33.8
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.08	662.4	29.82	757.4	64.0	17.8	84	1	6	5	8	2	.....	.....	4	10	5334	8574	4	2.71	68.8
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.41	696.2	29.87	758.7	68.7	20.4	86	2	4	1	1	6	14	2	1	.....	8098	13998	4	6.03	153.2
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.26	692.4	29.88	758.9	68.2	20.1	82	.....	4	3	6	9	3	.....	.....	6	7004	11272	4	3.62	91.9
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.76	730.5	29.93	760.2	72.0	22.2	90	.....	.....	.....	.....	6	5	.....	2	18	5906	9505	3	1.39	35.3
Fort Concho	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.73	714.5	29.98	761.5	71.9	22.2	86	.....	.....	.....	2	20	.....	3	.....	6	6398	10296	3	1.59	40.4
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3010	917	27.02	686.3	29.94	760.5	69.4	20.8	82	.....	.....	.....	.....	6	22	.....	.....	3	7097	11421	1	1.36	34.5
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.25	641.3	29.85	758.2	64.7	18.2	75	1	1	11	12	.....	.....	.....	.....	6	4433	7118	3	2.50	63.5
Southern plateau.																												
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.28	667.5	.....	.....	68.6	20.3	51	10	.....	.....	.....	.....	2	4	7	8	3222	5185	1	0	0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.42	594.9	29.84	757.9	58.6	14.8	64	2	.....	.....	1	1	8	6	12	1	4819	7755	4	1.13	28.7
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.23	691.6	29.79	756.7	59.7	20.9	50	.....	.....	2	.....	4	.....	2	2	21	.....	.....	3	2.93	74.4
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.12	638.0	29.84	757.9	59.7	15.4	71	.....	.....	.....	1	1	2	15	3	9	3875	6236	3	2.60	66.0
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.30	642.6	29.84	757.9	68.9	20.5	40	1	12	6	1	1	6	.....	3	1	4647	7478	2	0.93	23.6
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.82	630.4	29.82	757.4	60.7	15.9	64	1	.....	.....	1	8	.....	.....	.....	21	5015	8071	3	2.53	64.3
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.67	753.6	29.78	756.4	77.7	25.4	73	3	13	4	5	2	.....	1	3	.....	5174	8327	3	0.05	1.3
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.30	668.0	29.87	758.7	70.7	21.5	66	2	3	7	.....	.....	6	10	3	2952	4751	3	1.06	26.9
Middle plateau.																												
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.63	651.0	29.80	756.9	66.8	19.3	61	1	1	.....	.....	4	14	7	4	.....	4366	7026	4	0.58	14.7
Frisco	N. 38 25	W. 113 16	4.27 a.m.	6400	1950	23.80	604.5	.....	.....	66.1	18.9	33	2	4	3	17	3	1	.....	1	.....	9676	15572	2	0.15	3.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.64	651.2	29.82	757.4	56.8	13.8	40	1	.....	.....	10	6	.....	5	9	.....	4672	7519	1	0	0
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.41	620 0	29.87	758.7	57.2	14.0	68	.....	1	.....	6	1	17	5	1	.....	5834	9388	3	1.09	27.7
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	.....	.....	.....	.....	49.8	9.9	.....	13	5	1	2	4	2	.....	2	2	3813	6136	1	0.38	9.7
Northern plateau.																												
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.14	689.3	29.86	758.4	60.8	16.0	68	.....	5	.....	.....	.....	9	2	6	9	3033	4881	2	0.23	5.8
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.16	740.7	29.93	760.2	63.8	17.7	74	.....	2	.....	.....	.....	.....	4	25	1213	1952	2	0.12	3.0
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.98	710.7	29.97	761.2	61.3	16.3	75	2	1	.....	3	3	2	1	6	12	3941	6342	2	0.39	9.9
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.25	717.5	29.97	761.2	56.8	13.8	69	1	.....	.....	7	3	4	6	3	7	3646	5870	3	0.01	0.3
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.83	757.7	30.03	762.7	57.8	14.3	88	12	.....	6	1	5	3	2	1	1	4959	7981	7	0.22	5.6
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.98	761.5	30.02	762.5	53.7	12.1	88	1	1	2	1	8	2	.....	.....	16	1469	2364	4	1.10	27.9
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.99	761.7	30.01	762.2	50.9	10.5	93	1	.....	.....	.....	5	23	.....	.....	2	4235	6799	4	0.03	0.8
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.93	760.2	30.03	762 7	54.2	12.3	93	.....	2	1	15	2	3	3	2	3	5087	8187	4	0.17	4.3
Portland	N. 45 32	W. 122 43	3.49 a.m	67	20	29.94	760.5	30.00	762.0	58.6	14.8	84	2	1	1	1	3	.....	.....	.....	22	2559	4118	5	0.24	6.1
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.48	748.8	30.02	762.5	55.1	12.8	87	.....	2	2	1	.....	.....	.....	8	18	2504	4028	3	0.07	1.8
Mid. Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.30	744.2	29.97	761 2	53.7	12.1	90	8	11	.....	.....	6	4	.....	1	1	13910	22386	3	0.32	8.1
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.58	751.3	29.90	759.4	67.1	19.5	55	2	6	.....	1	12	2	3	1	4	4867	7833	1	0.05	1.3
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.85	758.2	29.90	759.4	61.1	16.2	71	.....	.....	.....	1	9	19	.....	1	1	6594	10612	1	Inap.	Inap.
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.91	759.7	29.96	761.0	57.1	13.9	91	.....	3	6	21	1	.....	.....	.....	.....	8649	13919	6	0.06	1.5
S. Pac. coast reg'n.																												
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.72	754.9	29.98	761.5	55.5	13.1	87	3	4	9	2	4	4	.....	1	4	5379	8560	4	0.02	0.5
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.60	751.8	29.93	760.2	60.4	15.8	86	2	.....	1	.....	5	1	1	1	20	3150	5069	6	Inap.	Inap.
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.88	758.9	29.92	760.0	63.3	17.4	86	4	10	3	3	7	2	1	1	.....	4560	7338	6	Inap.	Inap.
Alaska stations.																												
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.90	759.4	29.98	761.5	49.7	9.8	91	3	1	3	7	9	2	3	1	2	8845	14234	8	3.06	77.7
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	30.02	762.5	30.12	765.0	53.5	11.9	86	.....	8	.....	13	.....	4	.....	6	6	5716	9199	8	3.85	97.8
Unalashka	N. 53 53	W. 166 32	0.54 a.m.	13	4	29.88	758.9	29.92	760.0	46.7	8.2	89	3	1	.....	5	2	5	2	11	2	7164	11529	10	4.15	105.4
Sub-Series.																												
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.85	758.2	29.90	759.4	44.3	6.8	96	2	1	.....	8	8	2	3	6	1	8228	13245	6	4.05	102.9
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.95	760.7	29.90	759.4	78.2	25.7	87	4	9	1	.....	1	1	15	.....	.....	.....	.....	8	19.82	503.4
Cay Sal Light H.	N. 23 56	W. 80 28	6.38 a m.	?	?	.....	.....	30.05	763.3	83.7	28.7	81	.....	.....	3	1	1	.....	23	1	2	.....	.....	5	0.17	4.3
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	30.05	763.3	80.7	27.1	72	9	.....	.....	.....	.....	1	1	.....	20	3452	5555	5	1.03	26.2
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.04	763.0	29.96	761.0	79.0	26.1	82	.....	.....	.....	.....	.....	9	22	.....	.....	.....	.....	5	11.17	283.7
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.3	25.2	79	.....	.....	.....	.....	.....	1	4	26	.....	.....	.....	8	4.81	122 2

OCEAN SQUARE DATA FOR JULY, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° °															
N. 12.5 W. 22.5	29.87	758.7	80.5	26.9	2					1	9	19			3.2
12.5 27.5	29.92	760.0	80.0	26.7	5					1	14	11			3.4
12.5 32.5	29.98	761.5	80.0	26.7							12	19			3.9
12.5 37.5	30.01	762.2	80.2	26.8							22	9			4.3
12.5 42.5	30.02	762.5	80.2	26.8						2	29				4.4
12.5 47.5	30.02	762.5	80.8	27.1						2	29				4.4
12.5 52.5	30.00	762.0	81.0	27.2						7	23	1			4.1
17.5 22.5	29.92	760.0	78.7	25.9							18	13			3.2
17.5 27.5	29.97	761.2	78.6	25.9	1						6	24			3.3
17.5 32.5	30.02	762.5	78.8	26.0							16	15			3.9
17.5 37.5	30.06	763.5	79.0	26.1							28	3			4.3
17.5 42.5	30.08	764.0	79.5	26.4							29	2			4.5
17.5 47.5	30.08	764.0	80.2	26.8						3	28				4.5
17.5 52.5	30.05	763.3	81.2	27.3						3	28				4.3
17.5 57.5	30.03	762.7	82.7	28.2							30	1			4.2
22.5 22.5	30.01	762.2	77.2	25.1	1						18	12			3.6
22.5 27.5	30.05	763.3	77.5	25.3							12	19			4.0
22.5 32.5	30.09	764.3	77.7	25.4							19	12			4.1
22.5 37.5	30.13	765.3	78.0	25.6						1	27	3			4.2
22.5 42.5	30.15	765.8	78.5	25.8	1					5	24	1			4.0
22.5 47.5	30.14	765.5	79.5	26.4						7	22			2	4.2
22.5 52.5	30.12	765.0	80.6	27.0					3	10	17			1	4.2
22.5 57.5	30.10	764.5	82.1	27.8			1		1	9	20				4.2
22.5 62.5	30.08	764.0	82.7	28.2	1				4	8	18				3.4
22.5 67.5	30.08	764.0	82.9	28.3					5	11	13		2		3.3
22.5 72.5	30.06	763.5	83.9	28.8				3	2	10	13	1	2		3.3
27.5 22.5	30.12	765.0	75.4	24.1							13	18			3.8
27.5 27.5	30.15	765.8	76.0	24.4						1	12	18			3.9
27.5 32.5	30.18	766.6	76.5	24.7					1	1	18	10		1	3.9
27.5 37.5	30.20	767.1	78.7	25.9		1	1	1	2	5	16	2		3	4.0
27.5 42.5	30.21	767.3	77.2	25.1		1	1		6	6	12		2	3	3.8
27.5 47.5	30.20	767.1	78.3	25.7			1	1	10	2	10	3	1	3	3.9
27.5 52.5	30.17	766.3	79.5	26.4	1			4	9	8	7			2	4.1
27.5 57.5	30.14	765.5	80.6	27.0	1		1	2	11	3	9	3		1	4.1
27.5 62.5	30.12	765.0	81.5	27.5	2	2	1	3	8	7	5	1	2		3.1
27.5 67.5	30.11	764.8	81.9	27.7	2	2	1	4	11	8	1		2		2.9
27.5 72.5	30.09	764.3	82.6	28.1	1			5	11	8	3		3		2.7
27.5 77.5	30.06	763.5	83.7	28.7	2		2	3	11	8	3	1	1		2.4
32.5 12.5	30.10	764.5	73.6	23.1	20		2	2				7			3.8
32.5 17.5	30.16	766.1	72.3	22.4	13	1	2					15			3.5
32.5 22.5	30.21	767.3	74.1	23.4	5						7	19			3.7
32.5 27.5	30.24	768.1	75.4	24.1	4				1	5	14	7			3.6
32.5 32.5	30.25	768.3	75.5	24.2		1	1	2	4	2	18	2		1	3.9
32.5 37.5	30.25	768.3	75.4	24.1			3	4	5	11	3	2	2	1	3.4
32.5 42.5	30.22	767.6	75.4	24.1	1	1	3	5	8	8	1	2		2	3.9
32.5 47.5	30.18	766.6	76.1	24.5	1	1	5	7	8	2	3	2		2	4.1
32.5 52.5	30.15	765.8	77.2	25.1	1	1	6	8	9	1		1	2	2	4.3
32.5 57.5	30.12	765.0	78.3	25.7	2		10	5	9	2	1	1		1	3.9
32.5 62.5	30.11	764.8	79.0	26.1	2	3	6	13	5	2					3.6
32.5 67.5	30.08	764.0	79.9	26.6		4	6	11	9		1				3.7
32.5 72.5	30.05	763.3	80.2	26.8	4		5	17	2		2			1	3.6
32.5 77.5	30.03	762.7	81.9	27.7	3	1	5	14	1	2	2	3			3.2
37.5 12.5	30.10	764.5	71.3	21.8	19	7	2					3			4.3
37.5 17.5	30.18	766.6	70.8	21.6	14	2	1					13	1		3.9
37.5 22.5	30.27	768.8	72.7	22.6	7	2	2			4	4	10	2		3.2
37.5 27.5	30.30	769.6	74.1	23.4	2	1	3	4	4	4	5	5	3		2.6
37.5 32.5	30.27	768.8	73.7	23.2	2		4	6	7	5	6	1			3.9
37.5 37.5	30.22	767.6	73.2	22.9	2		2	11	9	5	1	1			4.0
37.5 42.5	30.16	766.1	72.7	22.6	2	1	5	10	8	1	1	2		1	3.9
37.5 47.5	30.11	764.8	72.5	22.5	1	4	8	8	5	2	2	1			4.4
37.5 52.5	30.08	764.0	73.5	23.1	1	3	8	8	6	2		2		1	4.2
37.5 57.5	30.06	763.5	75.3	24.1	3	3	6	9	6		2	1	1		3.7
37.5 62.5	30.04	763.0	75.6	24.2	4	1	11	6	4	2	1	1	1		3.8
37.5 67.5	30.02	762.5	74.9	23.8	6		9	7	3	3	1	2			3.7
37.5 72.5	30.00	762.0	75.4	24.1		2	11	7	1	2	3	2	2	1	3.4
42.5 12.5	30.11	764.8	70.7	21.5	6					1		23	1		4.0
42.5 17.5	30.21	767.3	68.7	20.4	9	3	2				4	12	1		3.8
42.5 22.5	30.27	768.8	70.1	21.2	5	1	6	4	5		2	8			3.9
42.5 27.5	30.28	769.1	70.8	21.6	3	1	4	9	3	1	6	4			4.0
42.5 32.5	30.23	767.8	70.9	21.6		3	3	8	9	4	3	1			4.3
42.5 37.5	30.16	766.1	70.1	21.2	2	3	1	12	9	2	1	1			4.5
42.5 42.5	30.09	764.3	69.0	20.6	4	2	3	6	12	2		2			4.5
42.5 47.5	30.04	763.0	65.6	18.7	6	4		7	8	3			2	1	3.9
42.5 52.5	30.03	762.7	66.6	19.2	3	8	2	8	4	2	2	1	1		3.8
42.5 57.5	30.00	762.0	68.4	20.2	3	5	3	8	5	3		2		2	3.9
42.5 62.5	29.99	761.7	68.2	20.1	4	3	8	4	4	3	2	2	1		3.6
42.5 67.5	29.98	761.5	65.2	18.4	5	2	6	6	4	5	1	1	1		3.0
47.5 12.5	30.20	767.1	65.6	18.7	5		6	4		1	7	6	2		4.0
47.5 17.5	30.22	767.6	65.2	18.4	5	1	6	7	1	2	3	5	1		4.0
47.5 22.5	30.22	767.6	65.4	18.6	4	3	5	10	4		3	2			4.2
47.5 27.5	30.19	766.8	65.5	18.6	1	4	7	10	2	1	1	3	1	1	4.3
47.5 32.5	30.14	765.5	65.5	18.6	1	3	5	13	7	1			1		4.2
47.5 37.5	30.07	763.8	64.7	18.2		3	5	12	6	4		1			4.5
47.5 42.5	30.02	762.5	62.0	16.7	4	4	3	13	4	3					4.5
47.5 47.5	29.98	761.5	58.5	14.7	2	4	7	7	6	3	1	1			3.9
52.5 12.5	30.15	765.8	61.2	16.2		3	9	14	1	1	1	2			4.1
52.5 17.5	30.12	765.0	59.5	15.3		4	8	13	3		2	1			4.7
52.5 22.5	30.09	764.3	58.8	14.9	1	4	10	8	5	2	1				4.5
52.5 27.5	30.05	763.3	58.0	14.4		3	11	11	5	1					4.7
52.5 32.5	30.02	762.5	57.6	14.2		4	8	13	5	1					4.3
52.5 37.5	29.98	761.5	56.9	13.8		4	5	14	2	5				1	4.1
52.5 42.5	29.96	761.0	55.1	12.8	3	4	3	11	6	4					4.3
52.5 47.5	29.90	759.4	53.0	11.7	1	3	5	8	7	1	3	2		1	3.9
57.5 12.5	30.01	762.2	56.7	13.7		5	6	13	5	1		1			4.7
57.5 17.5	29.98	761.5	55.3	12.9		5	8	11	3	3		1			4.9
57.5 22.5	29.94	760.5	53.7	12.1		3	14	7	4	2	1				4.7
57.5 27.5	29.93	760.2	52.0	11.1		4	10	6	4	3	2		1	1	4.6
57.5 32.5	29.91	759.7	51.0	10.6		7	6	10	1	3	2		1	1	4.4
57.5 37.5	29.88	758.9	49.9	9.9		7	4	9	3	2	4		1	1	4.2
57.5 42.5	29.88	758.9	49.4	9.7	3	6	4	10	2	2	2			2	3.8
57.5 47.5	29.85	758.2	49.4	9.7	4	3	8	4	5	2	2	2		1	3.8

REVIEW.

INTERNATIONAL METEOROLOGY FOR JULY, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of July, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Three areas of low mean pressure appear: one extends from the western portion of British India, northeastward to the Himalaya Mountains, and includes mean pressures ranging from 29.34 (745.2) to 29.40 (746.7); the second is located over the ocean between Greenland and Iceland and shows mean pressure below 29.80 (756.9), while the third is charted in the southwest portion of the United States and covers an elongated area extending from the Gulf of California into Utah, the depression being included within the isobar of 29.80 (756.9).

But one area of high mean pressure appears, being located over the Atlantic Ocean and covering a small area central in about N. 38°, W. 27°, exhibiting mean pressure 30.30 (769.6). In the United States the mean pressure was above 30.00 (762.0) on the north Pacific coast and over that portion of the country lying east of the Mississippi and south of the Ohio rivers. In Canada the mean pressure ranged from 29.90 (759.4) to 29.95 (760.7); over the British possessions between the eighty-fifth and one hundred and tenth meridian it was below 29.90 (759.4), while on the Pacific coast the mean pressure averaged about 30.10 (764.5). Over the north Atlantic Ocean the barometric gradient was steep, the mean pressure ranging from 29.79 (756.7) in Iceland to 30.30 (769.6) in N. 37°.

Compared with the chart for the preceding month (June, 1885), an increase in pressure is shown over the eastern Rocky Mountain slope, the extreme southern portions of the United States, northern New England, and the Maritime districts, the increase averaging about .05; in all other districts the mean pressure is lower than that for the preceding month. In Canada the mean pressure is lower, except in the Lake region, where slight changes are noted. Over the north Atlantic Ocean the mean pressure is higher. Over the British Isles it averages about .30 higher than in June. In Spain it is somewhat higher. In France it is .10 higher. In Germany it is about .15 higher. Over Scandinavia and northern Russia it is about .20 higher, while over eastern and southern Europe it is about .10 of an inch higher. Over British India the mean pressure remains about the same as in June. Over the Japanese Isles it is higher, the difference being slight in the southwest portion. Over the balance of Asia slight changes are noted, except off the eastern coast of Siberia and over the Sea of Okhotsk, where it is about .15 higher. Over Alaska and the western portion of Behring Sea it is slightly higher.

Compared with the corresponding month of previous years the mean pressure over the United States and Canada was about normal, slight differences being shown. Over the British Isles, Scandinavia, Denmark, Germany, and northern Russia, the mean pressure was considerably above the normal, the increase ranging from .15 in northern Russia to .33 over Norway. In Spain, France, Italy, and Austro-Hungary the mean pressure was slightly above the average for the month. In India it was nearly .10 below the normal. Over Siberia it was above the normal.

The following table shows the mean pressure and mean temperature for July, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	July mean of 8 (1877–'84) years.	July, 1885.	Departure.	July mean of 8 (1877–'84) years.	July, 1885.	Departure.
				°	°	°
Austro-Hungary	29.91	30.96	+ 0.05	74.5	76.1	+ 1.6
British Isles	29.90	30.18	+ 0.28	63.5	64.9	+ 1.4
Denmark	29.83	30.08	+ 0.25	64.4	61.3	− 3.1
France	30.02	30.11	+ 0.09	73.4	75.7	+ 2.3
Germany	29.92	30.11	+ 0.19	69.5	70.3	+ 0.8
India	29.56	29.48	− 0.08	81.2	84.5	+ 0.3
Italy	29.96	29.99	+ 0.03	81.5	82.0	+ 0.5
Japan		29.84			70.0	
Norway	29.75	30.08	+ 0.33	63.2	58.7	− 4.5
Portugal *	30.05	30.05	normal.	79.6	71.6	− 8.0
Russia	29.80	29.95	+ 0.15	74.5	78.8	+ 4.3
Spain *	30.03	30.06	+ 0.03	79.1	76.8	− 2.3
Sweden	29.78	30.02	+ 0.24	64.7	65.0	+ 0.3

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of July, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	July mean of 8 (1877–'84) years.	July, 1885.	Departure.	July mean of 8 (1877–'84) years.	July, 1885.	Departure.
				°	°	°
Astrakhan, Russia	29.79	29.89	+ 0.10	85.3	86.9	+ 1.6
Archangel, Russia	29.75	30.05	+ 0.30	64.6	73.4	+ 8.8
Athens, Greece	29.88	29.87	− 0.01	87.4	86.0	− 1.4
Beirut, Turkey in Asia	29.76	29.74	− 0.02	85.9	86.0	+ 0.1
Barnaul, Siberia, Asia	29.65	29.72	+ 0.07	73.1	70.2	− 2.9
Bridgetown, Barbadoes		29.95			84.7	
Cape Town, Cape of Good Hope *				61.9	62.4	+ 0.5
Ekaterinburg, Russia	29.70	29.97	+ 0.27	70.4	69.1	− 1.3
Fort Napier, Natal, South Africa	30.04	30.03	− 0.01	68.4	70.9	+ 2.5
Freetown, Sierra Leone	29.95	29.82	− 0.13	83.1	82.0	− 1.1
Funchal, Madeira Islands	30.16	30.15	− 0.01	72.7	72.0	− 0.7
Gibraltar	30.02	30.10	+ 0.08	77.8	73.6	− 4.2
Havana, Cuba, W. I. *	30.06	30.02	− 0.04	80.9	79.2	− 1.7
Malta, Mediterranean Sea	29.96	29.98	+ 0.02	83.0	80.8	− 2.2
Melbourne, New South Wales	30.15	30.20	+ 0.05	47.4	45.8	− 1.6
Mauritius, Indian Ocean	30.20	30.12	− 0.08	71.7	71.6	− 0.1
Mexico, Mexico		30.15			54.7	
Nassau, Bahamas, W. I.	30.06	30.06	normal.	84.6	85.8	+ 1.2
Nikolaevsk on the Amoor, Asia		29.84			59.9	
Paramaribo, D. Guiana, S. A.	30.04	29.96	− 0.08	80.6	79.0	− 1.6
Ponta Delgada, Azores	30.29	30.30	+ 0.01	74.5	75.2	+ 0.7
Sandwick Manse, Orkneys	29.78	30.11	+ 0.33	56.6	56.2	− 0.4
San Juan de Puerto Rico, W. I.	30.05	30.03	− 0.02	82.1	81.5	− 0.6
Stykkisholm, Iceland	29.79	29.79	normal.	51.6	49.1	− 2.5
Tashkend, Toorkistan, Asia	29.64	29.65	+ 0.01	88.6	87.1	− 1.5
Thorshavn, Färöe Islands	29.79	29.94	+ 0.15	53.7	53.1	− 0.6
Tiflis, Russia	29.76	29.75	− 0.01	88.1	88.2	+ 0.1
Yeniseisk, Siberia, Asia	29.71	29.85	+ 0.14	69.6	72.5	+ 2.9
Zi-Ka-Wei, China	29.73	29.69	− 0.04	77.7	75.0	− 2.7

* Means for seven years only.

In the United States the mean temperature in all districts corresponded very nearly with the July normal. In Canada the temperature was above the normal at nearly all stations, except in Manitoba, the excess being greatest in the Maritime Provinces. Over the British Isles the mean temperature was slightly above the average. Over the balance of Europe the mean temperature was above the normal, except in Spain, Portugal, Norway, and Denmark. In British India the mean temperature was slightly above the average for the month.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	98.8	37.1	Hobart Town, Australia	41.8	5.4
Tiflis, Caucasia	88.2	31.2	Niobla, Chili	43.2	6.2
Lugan, Russia	87.4	30.8	Behring's Island, Behring Sea	44.3	6.8
Scutari, Turkey	86.4	30.2	Unalashka, Alaska	46.7	8.2
Avignon, France	86.2	30.1	Stykkisholm, Iceland	49.1	9.5
Bridgetown, Barbadoes	84.7	29.3	Fort Saint Michael's, Alaska	49.7	9.8

In the United States the prevailing winds in all districts east of the one hundredth meridian were from south or southwest; on the Pacific coast they were westerly; in the Rocky Mountain districts they were variable. In Canada south to west winds prevailed. Over the north Atlantic Ocean south-

west winds prevailed from the coast of the United States to the south coast of England and over the ocean to the northward; south of the thirtieth meridian the winds were generally easterly. Over the British Isles southwest to northwest winds prevailed, except in northern Scotland where they were southerly; over the balance of Europe they were variable.

In the United States the precipitation during the month was deficient on the Atlantic coast and in the Ohio Valley, in the district last named and in New England the average precipitation was about one-half the normal amount; in other districts the average precipitation was about normal, although marked departures occurred at certain stations. In Canada the average precipitation for the month was in excess of the normal, except in Ontario, New Brunswick, and Nova Scotia. Over the British Isles the rainfall was deficient, except in the extreme west portion.

In the United States and Canada the month was not marked by any abnormal meteorological features. Over the north Atlantic Ocean the weather was generally pleasant in the region covered by marine observations, no violent storms being encountered. Over the British Isles the weather was generally fine. Over the balance of Europe fair weather prevailed, the cyclonic systems being, as a rule, either too small or too shallow to materially affect the general meteorological conditions. Over British India cloudy weather prevailed. Over the Japanese Isles the weather was generally fair, except over Yesso and the northern portion of Hondo, where it averaged cloudy. The weather was generally cloudy over the Aleutian Islands, Behring Sea, and Alaska.

TRACKS OF AREAS OF LOW PRESSURE FOR JULY, 1885.

Chart iii for July, 1885, shows the approximate paths of thirty-six areas of low pressure that appeared in the northern hemisphere during the month. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

Ten areas of low pressure are traced over the North American continent; the average number of depressions charted for July during the last twelve years being nine. The most violent and destructive storms of the month occurred on the 8th, accompanying the passage of low area number iii, numbers i and ii pursued abnormal paths, remarkable for their westerly movement. All paths were located in the northern portion of the United States and in Canada, except small developments as far south as Tennessee. The average progress of the storm-tracks was in excess of the mean for several years.

Ten areas of low pressure are traced on the Atlantic Ocean, of which number four were continuations of depressions traced over the North American continent. The depressions charted were of slight intensity, and in no instance was it found possible to trace a storm entirely across the ocean. Numbers xi, xv, xvii, and xx are described in detail in the MONTHLY WEATHER REVIEW for July, 1885, under the heading, "North Atlantic storms."

An area of low pressure bounded by the isobar of 29.40 (746.7) was located over Iceland and the ocean to the northward during the 1st and 2d. An area of low barometer commenced to develop south of Iceland on the 6th, with pressure ranging below 29.60 (751.8). On the 7th the pressure within this area had decreased to about 29.20 (741.7), and on the 8th had risen about one-tenth of an inch. During the 8th the depression moved slowly northeastward to the south coast of Iceland by the 9th, where barometric pressure 29.40 (746.7) was exhibited. From this position the storm moved southeast to N. 61°, W. 13° on the 10th, with slight changes in pressure; continuing a southeast course it was central on the 11th off the northwest coast of Scotland, with a marked loss of energy and a decided increase in pressure; whence it circled northeastward and disappeared during the 12th, apparently filling up when off the coast of Norway.

Number xiii first appeared off the west coast of Iceland on the 14th, with central pressure about 29.60 (751.8); whence it passed east over Iceland to N. 64°, W. 8° by the 15th, and slightly south of east to N. 53°, W. 1° by the 16th, with a slight increase in pressure. During the 16th it moved eastward into Norway, and is continued as a land depression.

Number xiv was a continuation of land depression number v, and moving east was central off the southeast coast of Newfoundland on the 17th, from which position it apparently passed northeastward and dissipated. Number xvi appeared in about N. 43°, W. 50° on the 21st, having apparently originated to the northward of that position. During the 21st it moved northeastward to N. 50°, W. 43° by the 22d, and then apparently circled south of east, uniting with number xvii in N. 49°, W. 40° on the 23d.

Number xviii first appeared over the ocean southwest of Iceland on the 24th, and while it is possible that this depression was a continuation of number xvi an absence of reports over the ocean between the fiftieth and sixtieth parallels renders it impossible to establish the fact. During the 24th and 25th the storm moved slightly east of north and disappeared to the northward of the region of observation.

Number xix was a continuation of land depression number ix, and passing northeastward off the Labrador coast was central on the 26th in about N. 57°, W. 57°, with central pressure 29.50 (749.3). On the 27th it had advanced to the southwest coast of Greenland, with pressure below 29.40 (746.7), whence it apparently moved northward beyond the region of observation.

Nine depressions are shown over Europe and adjacent waters, the tracks being most frequently traced over the extreme northern, central, and southeastern portions. One (number xxv) was a continuation of a depression traced over the north Atlantic Ocean; one passed over Scotland; and one first appeared in Spain. The general course of direction of the storms was easterly, although, in instances, irregular paths were followed. With the exception of number xxv and xxix, the depressions possessed small energy.

The month opened with areas of low pressure (number xxi) over the Gulf of Bothnia and (number xxii) over Austro-Hungary. Number xxi passed north of east into the White Sea by the 2d, and disappeared to the eastward. Number xxii circled to the eastward and northward during the 1st, 2d, and 3d, and apparently passed into the Baltic Sea during the latter date and dissipated. On the 3d an area of high pressure extended from the north coast of Africa over central Europe, Scandinavia, and northwestern Russia. On the 4th this area of high had contracted and extended over Russia from the Arctic Ocean to the fifty-fifth parallel. During the 3d an area of low pressure (number xxiii) passed northeastward over Spain, and, following the same course, passed through France during the 4th; whence it moved into, and passed through, Germany, in about N. 51°, during the 5th and 6th. By 12 noon (Greenwich mean time) it had passed through southern Poland into Russia, in N. 51°, E. 28°. During the next two days it moved southward, and during the 10th passed eastward over the Black Sea and the Crimea, and disappeared over the Sea of Azov. This depression while possessing fair energy was not accompanied by violent disturbances.

On the 5th an area of high pressure from the ocean reached the west coast of France, and prevailed over middle, western, and southwestern Europe until the 9th, after which it moved northeastward over Scandinavia and northern Russia. During the 5th and 6th a slight depression (number xxiv) passed eastward through northern Italy into Austro-Hungary, disappearing during the latter date. The passage of ocean depression number xii caused rain and generally unsettled weather over the British Isles during the 10th, 11th, and 12th. On the 16th ocean depression number xiii, continued as land depression number xxv, impinged the west coast of Norway, and at

12 noon (Greenwich mean time) of the 17th was located over central Scandinavia, with central pressure about 29.70 (754.4). During the next twenty-four hours it circled north to the west coast of Norway in N. 65°, with pressure 29.40 (746.7); from thence, passing northeastward along the coast, it disappeared north of the seventieth parallel during the 19th.

On the 18th and 19th a slight depression passed north of east over northern Scotland and the North Sea, disappearing over Norway during the 19th. During the 21st, 22d, and 23d an area of high pressure prevailed over the British Isles, and extended northeastward over Scandinavia during the 24th. The pressure continued high over western Europe to the close of the month. Depression number xxvii appeared over northern Finland on the 21st, with central pressure below 29.70 (754.4), and passed northeastward beyond the region of observation during that date. Number xxviii is first charted in west Russia, whence it passed northeastward during the 23d and 24th, and was deflected eastward beyond the region of observation during the latter date by an area of high pressure to the northward.

Number xxix apparently originated in the Baltic Sea and passed southeastward through the extreme northeastern portion of Prussia during the 24th, with central pressure about 29.65 (753.1); pursuing a southeast course it moved through Poland and along the northeastern slope of the Carpathian Mountains into south Russia by the 27th, with slight changes in pressure, and remained nearly stationary north of the Crimea during the 28th and 29th, during which dates the pressure decreased to about 29.15 (740.4), and great energy was developed. On the 29th it moved slowly west of north, and during the 30th and 31st circled to the eastward, with a marked increase in pressure. This was the most severe storm of the month, and its course subsequent to July 31st will doubtless be shown on the storm-track chart for August, 1885.

Seven areas of low pressure (numbers xxx to xxxvi, inclusive) are traced over the Japanese Islands, eastern Asia, and the Pacific Ocean, of which number, six are charted over, or in the vicinity of, the Japanese Islands. Number xxx was central on the 1st over Hondo, with pressure ranging below 29.00 (736.6), whence it moved northeastward, disappearing to the eastward during the 3d. The barometric pressure within the storm increased rapidly during the 2d and 3d.

Number xxxi originated in the vicinity of the Aleutian Islands, and, passing eastward, was central on the 2d south of the extremity of the Alaskan Peninsula, with pressure about 29.50 (749.3). Circling east and north it passed through the southwestern part of Alaska during the 3d, and passed northwest toward Behring Strait during the 4th.

Number xxxii first appeared on the 4th over the southern portion of the Yellow Sea and passed northeastward over Kiu-Siu and Hondo into the Japan Sea during the 5th and 6th, after which it disappeared to the northeastward. This area of low was bounded by the isobar of 29.60 (751.8) during the three days for which it is charted.

Number xxxiii apparently developed off the Chinese coast during the 9th, and was central at 12 noon (Greenwich mean time) of that date over the Yellow Sea; from that position it moved northeastward over the Japan Sea and northern Hondo, and is given a probable track to the westward of Behring Island by the 13th. This storm had pressure about 29.50 (749.3) during the 13th.

Number xxxiv, traced eastward through the Japan Sea and Hondo during the 14th and 15th, possessed slight energy and disappeared over the ocean during the latter date. Number xxxv pursued a similar course and was also of slight depth. Number xxxvi first appeared west of Kiu-Siu on the 24th, and passed northward into Corea by the 25th, and northeastward into the Sea of Japan by the 26th, with pressure 29.37 (746.0) on the 25th. An area of low pressure was central over the Aleutian Islands from the 5th to 8th, inclusive.

TRACKS OF AREAS OF LOW PRESSURE FOR JUNE, 1883.

Chart iii for June, 1883, shows the approximate paths of the principal areas of low pressure that appeared in the northern hemisphere during the month. This chart continues the series of international charts begun in November, 1877, and the data used in its preparation are obtained from the sources mentioned above (storm-tracks for July, 1885), the marine observations, however, are neither so numerous nor so complete as in that month.

Nine areas of low pressure (i to ix, inclusive) are traced over the North American continent. Four of these depressions are charted off the eastern coast and continued as ocean storms; one appeared west of the one hundred and tenth meridian, and five are traced west of the one-hundredth meridian.

The general course of direction of the paths was northeasterly. One storm, number viii, first moved southeastward, its subsequent course being irregular; number vi passed southeastward off the coast of New England, and number ix moved northeastward along the eastern coast of the United States. These storms are described in detail in the MONTHLY WEATHER REVIEW for June, 1883, under the heading of "Areas of low barometer."

Fourteen areas of low pressure (x to xxiii, inclusive) are traced on the Atlantic Ocean. The location and course of direction of these depressions is greatly diversified, the paths being traced from the thirty-third to the seventieth parallels. six developed in mid-ocean; four passed over, or in the vicinity of, the British Isles; one first appeared near Iceland, and one is charted to the west coast of Greenland.

Number x first appeared on the 1st in N. 57°, W. 10°, with pressure about 29.75 (755.6), from thence moving northeastward to N. 62°, longitude 0° by the 2d, with a slight increase in pressure. Continuing a northeast course it reached the west coast of Norway, in N. 67°, on the 3d, with a decided increase in pressure; disappearing over the northern portion of the Scandinavian Peninsula during that date. Number xi originated in about N. 46°, W. 26° on the 2d, with pressure about 29.90 (759.4), fresh gales and rain; passing slightly south of east it entered the northern portion of Spain during the 3d, with a marked decrease in pressure and a considerable display of energy. This storm is further traced as a European land depression.

Numbers xii developed on the 5th in N. 48°, W. 23°, with central pressure about 29.70 (754.4) and fresh gales and rain within a radius of ten degrees. During the next twenty-four hours the storm-centre moved east seven degrees, with pressure decreased to about 29.55 (750.6), and fresh to strong gales to the fortieth meridian; passing east of north it was central on the 7th off the west coast of Ireland, whence it moved northeastward and disappeared off the northern coast of Scotland during the 8th. Number xiii was a continuation of land depression number i and passed south of east through the Gulf of Saint Lawrence during the 5th. At 12 noon (Greenwich mean time) of the 6th it was central off the south coast of Newfoundland, with pressure about 29.75 (755.6); from this position moving southeastward it is traced to N. 42°, W. 41° by the 7th, with central pressure about 29.50 (749.3) and a strong display of energy. Moving eastward, without apparent loss of strength, it is located on the 8th in N. 42°, W. 35°, whence it was deflected to the northward by an area of high pressure to the eastward, and merged into an area of low pressure which extended over Greenland and the ocean to the fiftieth meridian.

Number xiv first appeared in N. 47°, W. 10° on the 8th, with pressure about 29.70 (754.4), and moved to the coast of France by the 9th. It is further traced as a European land depression. Number xv was a continuation of land depression number ii, and passed northeastward off the coast of Labrador during the 8th, with pressure ranging below 29.60 (751.8). On the 9th it is located in N. 59°, W. 53°; from thence moving northward along the west coast of Greenland it disappeared in about N. 70° during the 10th. Number xvi developed in about N. 38°, W. 46° on the 10th and moved slightly south of east to N. 37°, W. 36° by the 11th, with pressure below 29.80 (756.9.) During the next two days it moved slowly northeastward, its

further progress and development being checked by an area of high pressure overlying the ocean to the eastward.

Number xvii was a continuation of land depression number iii and passed eastward over Nova Scotia during the early morning of the 11th, with central pressure about 29.80 (756.9); at noon (Greenwich mean time) of that date it was central in N. 44°, W. 57°; after which time it apparently dissipated to the eastward. Number xviii first appeared in N. 41°, W. 35° on the 13th, with pressure about 29.80 (756.9), and moved slowly southwestward to N. 40°, W. 38° by the 14th, with a marked increase in pressure, whence it circled southeastward to N. 36°, W. 33° by the 15th. During the next twenty-four hours it passed three degrees east and was then deflected to the south by a high barometer area on its east and northeast margins, and finally disappeared to the southwestward.

Number xix apparently originated in about N. 33°, W. 56° on the 18th, and, moving northeastward, developed considerable energy during the next twenty-four hours, at the expiration of which time it was central in N. 42°, W. 50°, with pressure ranging below 29.80 (756.9), strong gales and rain. During the 19th this depression moved northeastward and probably scattered on the western margin of an area of high pressure which prevailed over mid-ocean to the eastward. Number xx first appeared off the west coast of Iceland on the 21st, and passed southeastward to, and over, the British Isles during the next three days, with pressure ranging from 29.70 (754.4) to 29.80 (756.9); disappearing to the eastward during the 24th.

Number xxi was a continuation of land depression number vi, and passed southeastward, south of Nova Scotia, during the 22d, to N. 42°, W. 60° by the 23d; it then moved rapidly northeastward to N. 50°, W. 48° by the 24th, and to N. 54°, W. 37° by the 25th, whence it circled southeastward to N. 52°, W. 28° by the 26th, and passed east of south to N. 45, W. 25° by the 27th; from which position it circled to the eastward and was absorbed by an area of low pressure central over the British Isles. This storm possessed moderate strength and was accompanied by fresh gales and rain during the last two days of its passage.

Number xxii developed over the ocean west of Ireland on the 25th, and described a half circle over Ireland and Scotland during that and the following two days; passing during the 27th off the north coast of Scotland in a northwesterly direction. This storm rapidly increased in energy from its inception, and on the 27th exhibited pressure below 29.40 (746.7). Number xxiii originated over mid-ocean in N. 47°, W. 42° on the 28th, and moved rapidly south of east to N. 45°, W. 28° by the 29th, from thence circling northward and uniting with an area of low pressure which prevailed over the ocean north of the fiftieth parallel. The passage of this depression was accompanied by fresh to brisk gales and rain.

Twelve depressions (xxiv to xxxv, inclusive) are traced over Europe and adjoining waters, the paths being rather evenly distributed over the continent; being least numerous in the southeastern portion, and most frequently charted through Germany. The general course of direction of the depressions was northeasterly. Of the depressions traced, the following are brief descriptions of those which developed special energy or exhibited noteworthy features:

Number xxv was a continuation of ocean depression number xi, and passed eastward through the north of Spain during the 3d and 4th; from thence slowly moving in a generally northeast course to the Gulf of Bothnia by the 10th, whence it passed into Scandinavia and disappeared north of the sixtieth parallel during the 12th. The passage of this depression was accompanied by generally stormy weather and pressure averaging about 29.80 (756.9). Subsidiary to this depression, low area number xxix developed in Austro-Hungary on the 6th, and passed north of east into west Russia by the 7th, after which date it disappeared to the northeastward. This storm exhibited central pressure 29.50 (749.3) during the 6th, but was not accompanied by other conditions indicative of unusual energy.

Number xxxii is first charted in the English Channel, and was central at 12 noon (Greenwich mean time) over its upper extremity, with pressure 29.80 (756.9), from which position the depression moved east of north over the North Sea and through Norway and the northern portion of Sweden, disappearing over Finland during the 18th. This area of low pressure was accompanied by strong gales on the Black Sea and off the coasts of Scandinavia during the 16th and 17th, with pressure ranging below 29.60 (751.8). Number xxxiv entered Poland from Austro-Hungary during the 19th, and passed northeastward into west Russia by the 20th, with a marked increase in energy, whence it pursued an irregular easterly course into Asia by the 24th, accompanied throughout its passage by conditions favorable for severe atmospheric disturbances.

But three depressions are traced off the coast of Asia and in the north Pacific Ocean, one of which passed over the Japanese Islands; another is traced through the sea of Okhotsk, and continued over the Pacific, north of the Aleutian Islands, into Behring Sea; and the third first appeared over the Aleutian Islands and circled north of east towards the southern coast of Alaska.

An area of low barometer was central over the Sea of Okhotsk on the 15th, moving slowly eastward during that date this depression merged into an area of low pressure which remained nearly stationary over Kamchatka and the ocean to the eastward from the 16th to the 20th, inclusive; during the 21st and 22d the area moved north of east into Behring Sea and disappeared to the eastward. This depression exhibited pressures ranging below 29.40 (746.7) on the 17th, 19th, and 20th, but its extent and energy cannot be calculated, by reason of an absence of reports.

The barometric pressure over the Japanese Isles was generally low during the month, and while a number of shallow depressions appeared, but one, numbered xxxvi on the chart, was sufficiently well defined to admit of tracing. This depression appeared on the the 1st off the west coast of Kiu-Siu, with pressure about 29.55 (750.6), and passed northeastward over Kiu-Siu and Hondo during that date. Apparently remaining nearly stationary to the eastward of Hondo during the 2d and 3d, the depression disappeared to the northward beyond the region of reports by the 4th.

Number xxxvii is first charted over the Aleutian Islands on the 1st, with pressure recorded 29.22 (742.2); from this position it moved north of east, and disappeared during the 3d. An area of low pressure, possibly a continuation of number xxxviii, was central over the ocean west of Sitka on the 23d, with pressure below 29.40 (46.7), whence it passed northwestward to the southern coast of Alaska during the next two days, and disappeared to the northward.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Arlon, Belgium, at 1 p. m., local time, or 36 minutes late; Upernavik, Greenland, at 8 a. m., local time, or 16 minutes early; Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, instead of at 9.49 p. m.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

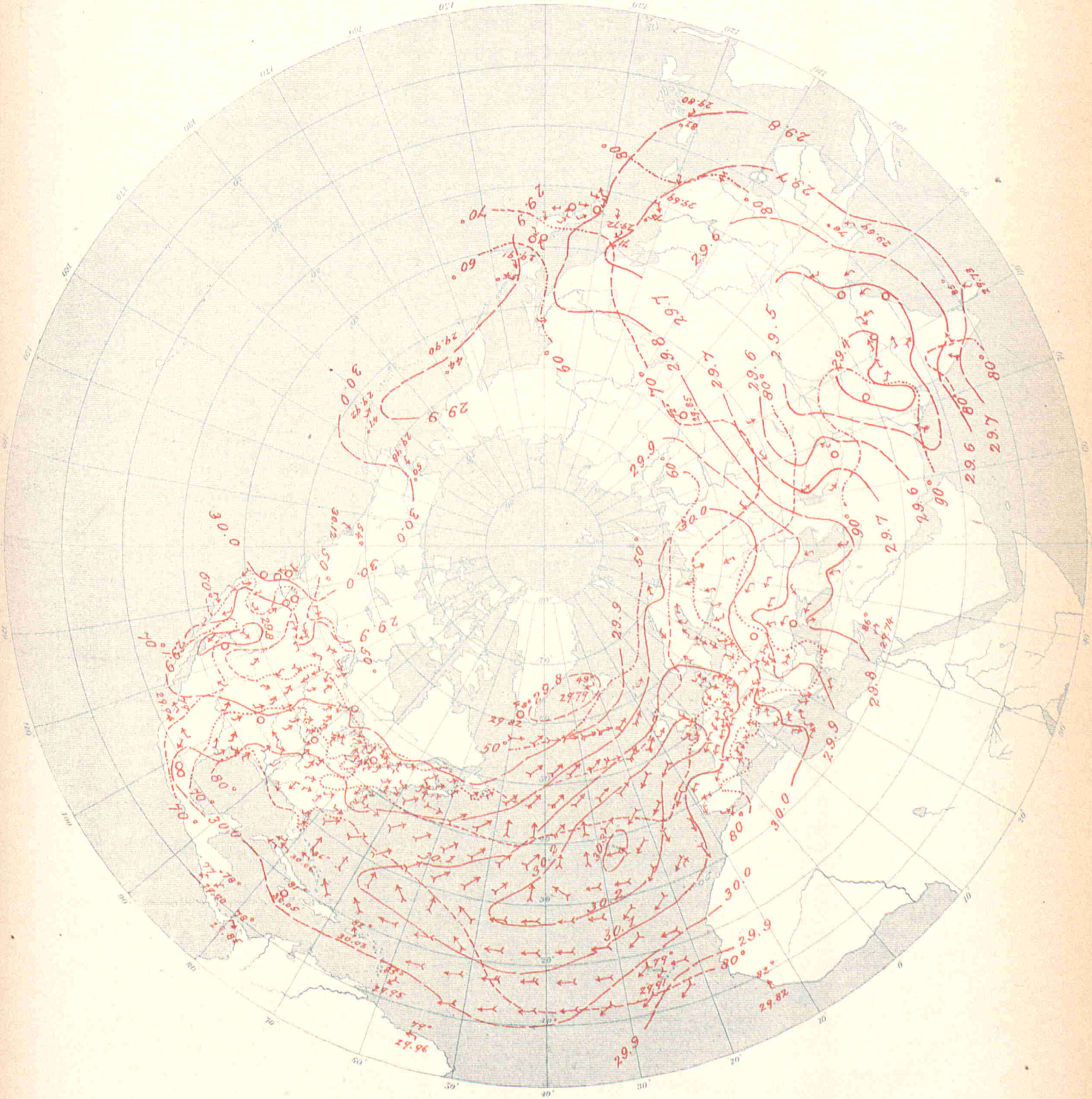
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. July, 1885. Isobars, Isotherms, and Winds.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

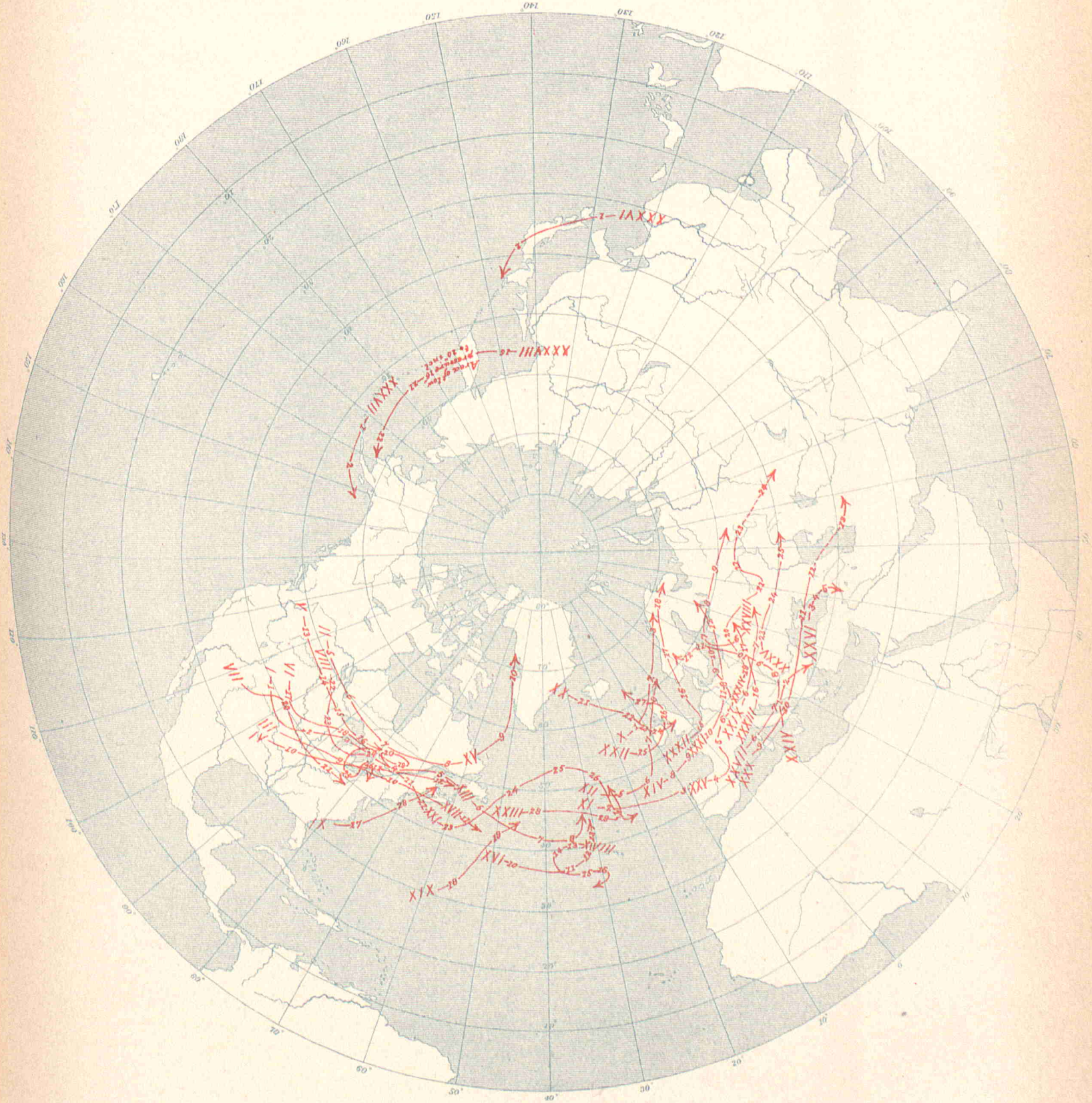
International Chart III. July, 1885. Tracks of Areas of Low Pressure.

UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

Signal Office Lith.

International Chart III. June, 1883. Tracks of Areas of Low Pressure.



UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B. Hazen, Chief Signal Officer.

Signal Office Lith

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July, 1885—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—*Continued.*	
Br. s. s. Monte Rosa	Capt. W. Thos. Irving.
Peconic	John Jenkins.
Phoenix	Benj. Davis.
Piqua	W. Clayton.
Portuense	Frederick Hervs.
Rydal Water	Ch. Off. H. Cattleghan.
Romeo	Capt. W. Williams.
Sika	A. Scotland.
Strathleven	C. W Pearson.
Span. Br. Valentia	M. Santamarina.
Vindolana	Thos. Harrison.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Alisa	J. W. Sansom.
Albano	H. R. Hughes.
Alene	E. J. Seiders.
Alvo	D. Williams.
Aurania	W. H. P. Hains.
Baltic	R. E. Bence.
Belg. Br. Belgenland	W. A. Beynon.
Br. Britannic	H. Perry.
Am. Celtic	Benj. Gleadell.
Am. Chalmette	Robert B. Quick.
Br. City of Alexandria	J. W. Reynolds.
City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Chester	H. Condron.
Am. Br. City of Puebla	John Deakin.
Am. City of Richmond	A. W. Lewis.
Colon	Chas. C Lima.
Ger. Crescent City	Jas. L. Lockwood.
Br. Elder	H. Helmers.
Ger. Elysia	James Brown.
Br. Ems	Ch Leist.
Br. Etruria	T. Cook.
Dan. Gallia	M. Murphy.
Br. Geiser	F. V. Schierbeck.
Belg. Ivanhoe	John Cameron.
Br. Nederland	A. J. Griffin.
Dtch. Nevada	J. Douglass.
Belg. P. Caland	T. H. Bonjer.
Br. Pennland	R. Weyer.
Belg. Republic	P. J. Irving.
Am. Rhynland	J. C. Jamison.
San Marcos	Ch. off. A. B. Connor.
Fr. Saratoga	Capt. John McIntosh.
Dtch. St. Laurent	M. de Jousselin.
Br Schiedam	G. Bakker.
Servia	W. McMicken.
Belg. State of Georgia	G. Moodie.
Dtch. Switzerland	H. Buschmann.
Belg. W. A. Scholten	G. Bakker.
Waesland	J. Ueberweg.
Br. Westernland	Com. W. G. Randle.
Wisconsin	Capt. Edw. Bentley.
Wyoming	C. L. Rigby.
SAILING VESSELS.	
Am. bg. Abbie Clifford	D W. Storer.
Am. schr. Abbie H. Gheen	W. W. Gheen.
Br. bg. Achsah	A. M. Shaw.
bk. Ada Peard	N. Hocken.
Ger. sp. Agra	A. Hügemann.
Am. sp. A. J. Fuller	Theo. P. Colcord.
It. bk. Angela Schiaffino	E. Schiaffino.
Anni	B. Fortman.
Am. bk. Antonio Sala	F. H Mitchell.

Name of vessel.	Captain.
SAILING VESSELS—*Continued.*	
Am. bg. Arcot	Capt. J. W. Cates.
Nor. bk. Artemis	E. E. Moe.
Br. bk. Artisan	J. Dwyer.
Ger. sp. Baltimore	N. Freese.
Br. bk. British Princess	F. W. Peterson.
sp. Caesarea	J. C. Barrette.
bk. Childwall	T. W. Watson.
sp. Cleomene	H. Mays.
Br. bk. Corisande	Daniel Thoms.
Christina	S. C. Witter.
Ger. bk. Cornelius	H. Windhorst.
Ger. sp. Derby	B. Fortmann.
bk. Diamant	L. Haesloop.
Exile	Geo. J. Pearce.
Am. schr. Florence Rogers	Jas. S. F McLeod.
Br. bk. Francesco Garguillo	John McDonald.
Dan. Galeon	H. H Kalsboll.
Am. Gamaliel	C. S. Powell.
schr. Georgia	E. G. Coffin.
Ger. bk. George Washington	J. Probst, jr.
Am schr. George W. Lochner	J. C. Wiltbank.
Gov. Hall	John Craig, jr.
Nor. bk. Haabet	K. Olsen.
Am. sp. Henry Villard	F. B. Perkins.
Br. sp. Hermon	F. N. Marvin.
Ger. bk Ida	W Schneider.
Am. bk. Idaho	W. S. Richardson.
Br. Iodine	A. Smith.
Br. sp. Iolanthe	Geo. Scott.
Am. sc. James H Gordon	W. Lawrence.
schr. James Slater	J. L. Tooker
bkt. John J. Marsh	F. P. Whittier.
bg. John Wesley	J. H. Hines.
Ger. sp. J. W. Gildemeister	A. Lehmann.
Br. bg. Kenilworth	P. Doig.
Ger. bk. Leocadia	John Stohff.
Am. bkt. Levanter	A. F Vesper.
sp. Magellan	John W. Strout.
bg. Mary Fink	Daniel B. Darrah.
sp. Mary L. Stone	G. L. Josselyn.
Br. bk. Mistletoe	J. L. Delap.
Am. bk. Mohican	Benj. F. Berry.
schr. Nelson Bartlett	Samuel Watts.
Ger. sp. Palme	W. Bahls.
Am. bkt. Payson Tucker	Chas. Brown.
Am. sp. Rembrandt	J. W. McGilvery.
bk. Rosebud	John Collie.
Br. bk River Ganges	Thos. Naile.
Am. sp. Saint David	W. W. Frost.
bk. Samuel B. Hale	A. S. Haven.
schr. Sarah D. J. Rawson	Thos. D. French.
bkt. Spotless	Chas E. Myrick.
schr. Stephen Bennett	William Douglas.
Br. sp. Stephen D. Horton	J. Spicer.
Am. bk Templar	R Roberts
schr. Thomas Clyde	A. J. Biddle.
Am. bk. Tillie Baker	J H. Carty.
Br. bk. Tuck Sing	G. N Ryder.
Ger. sp. Union	H Fokken.
It. bk. Vincenzo Accame	N V. Lavagna.
Ger. bk. Western Chief	F Sander.
Br. sp. Winifred	R. McDonald.
BRITISH NAVAL.	
H. M. S. Alexandra	Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Agamemnon	Long.
H. M. S. Bacchante	A. W. Moore.
H. M. S Cleopatra	H. N. Hippisley.

Name of vessel.	Captain.
BRITISH NAVAL—*Continued.*	
H. M. S. Champion	Capt. A. T. Powlett.
H. M. S. Condor	W. C. H. Domville.
H. M. S. Cocktrice	J. Hayes.
H. M. S. Dolphin	C. A. G. Bridge.
H. M. S. Espeigle	J. P. Maclear.
H. M. S. Flying Fish	G. N. A Pollard.
H. M. S. Gadfly	H. Haind.
H. M. S. Garnet	
H. M. S. Heroine	T. F. Pullen.
H. M. S. Lark	E. Hotham.
H. M. S. Midge	A. Lake.
H. M. S. Nelson	A. T. Brooke.
H. M. S. Opal	A. K. Wilson.
H. M. S. Raleigh	Hon. F. C. P. Vereker
H. M. S. Rambler	H. F. Cleveland.
H. M. S. Superb	P. Aldrich.
H. M. S. Sylvia	W. M. F. Castle.
H. M. S. Sappho	Woodward.
H. M. S. Turquoise	W. R. Clutterbuck.
H. M. S. Woodlark	
PORTUGUESE NAVAL.	
H. P. M. S. Temega	José d'Almeida d'Avila.
H. P. M. S. Estepharna	F. du Costa Cabral.
SWEDISH NAVAL.	
H. S. M. S. Vanadis	F. Bennet
H. S. M. S. Saga	A. Meister.
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlander	
Leeuwarden	
Prins Hendrick der Nederlander	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Constellation	C. L. Huntington.
U. S. S. Enterprise	A. S. Barker.
U. S. S. Galena	T. F. Kane.
U. S. S. Hartford	E. P. Lull.
U. S. S. Independence	Fred Rodgers.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	Chas Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	C. H Davis.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W.I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Rafael Moreno.
Niebla	Federico Köhling.
Punta Caldera	Manuel Tobar.
Punta Corona	Juan E. Diaz.
Quiriquina	Jose Ignacius Campos.
Valparaiso	Julian Casho.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Frére Eugene Marié.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noél, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Théirot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Mühl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Central Station.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Yamazaki.
Kanazawa	S. Endo.
Kagoshima	G. Miyanohara.

Stations.	Observers.
JAPANESE—*Continued.*	
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	H. Yoshino and Tanno.
Numadzu	T. Ohgi
Osaka	H. Onura.
Sakai	K. Yamawchi & P. Yoshimura
Shinonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	Prof P. Spina.
Zacatecas	J. A Bonilla, M E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Rosenthal.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gaden, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF AUGUST, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
OCTOBER, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. Burton.
British Prince	Sam. Nowell.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
City of Rome	R. D Munro.
Elysia	James Brown.
Ethiopia	John Wilson.
Italia	Thos. Craig.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s Ailsa	John W. Sansom.
Alvo	David Williams.
Span. Andes	A. de Amezaga.
Athos	Horatio Low.
Br. Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
CANADA SHIPPING Co.	
Br. s. s. Lake Nepigen	M. L. Tranmar.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Bothnia	T. Roberts.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
Europa	L. A. Kessal.
India	I. I. von Holdt.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Neustria	P. Verriers.
FURNESS LINE.	
Br. s. s. Durham City	M. P. Lund.
Ripon City	Ch. Offi. J. Mansfield.
Stockholm City	Capt. K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Canada	G. de Kersabiec.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Wm. Stamper.
GUION LINE.	
Br. s. s. Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig
Wieland	C. Hebich.
Westphalia	H. Barends.

Name of vessel.	Captain.
INMAN LINE.	
Br. s. s. City of Berlin	Capt. Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Bessel	Chas. J. Watson.
Biela	Fred Graham.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Dalton	J. Russell.
Donati	John P. Bevis.
Euclid	Alex. W. Pym.
Plato	John P. Bevis.
Ptolemy	W. P. Ballantine.
Olbers	Jas Clark.
Sirius	W. H. Stapledon.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
LIVERPOOL, BRAZIL AND RIVER PLATE STEAM NAVIGATION Co.	
Br. s. s. Olbers	James Clarke.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN AND NEW YORK STEAMSHIP COMAANY.	
It. s. s. Stura	Joseph Brofferio.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrisch.
Grecian Monarch	B. J. W. Bristow.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	R. S. Rigby.
Erin	John Robinson.
Greece	Thos. Foote.
Helvetia	John Milligan.
Holland	Wm. Tyson.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Dilliberto.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Elder	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	R. Ringk.
Hermann	H. Baur.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Salier	C. Wiegand.
Werra	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Arabic	W. G. Pearne.
Oceanic	John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.

Name of vessel.	Captain.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	Capt. H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Geo. W. Elder	H. S. Ackley.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Mexico	T. Huntington.
Orizaba	John N. Ingalls.
Santa Rosa	Chas. B. Johnson.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Br. s. s. Australia	R. C. Ghest.
City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	W. B. Sembury.
San Blas	T Chapman.
San Jose	A. D. Austin.
Zealandia	Henry Webber.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J S. Garvin.
RED CROSS LINE.	
Br. s. s. Theresina	E. J. Collings.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sliecendregt.
P. Caland	T. H. Bonjer.
W. A. Scholten	G. J. Vis.
Zaandam	A. Potjer.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Minho	Walter Chapman.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch. s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nevada	John A Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Hekla	A. G. Thomsen.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
Finance	Ch. Off. James Lord.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
WHITE CROSS LINE.	
Dtch. s. s. De Ruyter	J. J. Brarens.
Belg. Jan Breydel	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	R. E. Bence.
Britannic	H. Perry.
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.

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WASHINGTON, D. C.
OCTOBER, 1886.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, AUGUST, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
AUSTRALIAN.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.96	761.0	30.08	764.0	52.0	11.1	73	5	2	9	5	.....	1	2	4	3	9407	15129	4	2.34	59.4
Hobart Town *a*	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.58	751.3	29.77	756.1	46.9	8.3	83	5	10	6	6	1	.....	.....	.....	2	.....	.....	5	1.43	36.3
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.88	758.9	29.96	761.0	50.8	10.4	77	13	5	7	1	3	1	....	1	.....	.....	.....	7	1.54	39.1
AUSTRIAN.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.39	746.6	29.92	760.0	74.7	23.7	56	.....	.....	2	5	8	6	6	4	.....	.....	.....	4	4.96	125.9
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.15	740.4	29.91	759.7	66.2	19.0	66	1	8	9	2	2	6	3	.....	.....	.....	.....	7	2.95	75.0
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.03	737.3	29.88	758.9	62.4	16.9	71	3	.....	.....	.....	8	.....	.....	.....	20	.....	.....	6	2.22	56.4
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28 69	728.8	29.90	759.4	69.8	21.0	69	2	3	1	7	9	4	3	.....	2	.....	.....	4	4.40	111.7
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.48	723.5	29.86	753.5	72.9	22.7	60	.....	7	5	.....	.....	4	4	1	.....	.....	.....	5	4.03	102.4
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1200	384	28.63	727 2	29.93	760 2	67.3	19.6	68	.....	3	8	3	1	.....	9	6	1	.....	.....	6	4.14	105.1
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.90	734.0	29.87	758.6	66.0	18.9	69	.....	5	10	10	2	2	.....	2	.....	.....	.....	5	5.06	128.6
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.80	756.9	29.91	759.7	78.4	25.8	60	.....	.....	8	2	3	9	8	1	.....	.....	.....	3	8.54	216.8
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.43	747.6	29.89	759.2	73.9	23.3	52	4	8	3	4	5	4	3	.....	.....	.....	.....	6	2.86	72.7
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.01	752.2	29.87	758.8	75.2	24.0	53	3	4	8	7	3	2	1	.....	3	.....	.....	6	2.12	53.8
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.82	757.5	29.92	760.0	78.3	25.7	60	2	2	16	3	2	2	1	3	.....	.....	.....	4	8.10	205.8
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.22	742.2	29.93	760.1	69.4	20.8	56	3	5	10	1	.....	8	1	3	.....	.....	.....	4	2.11	53.5
BRAZILIAN.																										
Rio de Janeiro *a*	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.96	760 9	30.19	766.9	69.3	20.7	77	4	18	2	1	.....	.....	2	2	.....	.....	.....	6	0.39	9.8
BRITISH.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.89	759.2	30.02	762.5	55.7	13.2	70	4	9	4	1	1	4	1	7	.....	8382	13472	7	2.26	57.4
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.99	761.7	59.6	15.3	66	3	4	8	2	1	3	7	3	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.44	747.8	29.78	756.4	57.8	14.3	70	.....	4	1	5	6	1	6	8	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.57	751.1	29.99	761.7	59.1	15.1	65	7	4	3	1	3	2	2	9	.....	.....	.....	8	0.78	19.8
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.96	761.0	29.92	760 0	84.9	29.4	69	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.82	757.4	30.02	762 5	63.4	17.4	93	.....	5	6	2	3	1	2	.....	12	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.80	756 9	30.00	762.0	62.8	17.1	69	1	8	1	4	1	9	7	.....	.....	.....	.....	5	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.70	703.6	29.94	760.5	75.5	24.2	39	8	1	.....	.....	8	2	4	8	.....	.....	.....	3	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.78	756.4	82.9	28.3	87	8	1	4	3	8	1	5	1	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.90	759.4	29.94	760.5	61.6	16.4	78	4	.....	4	9	.....	.....	2	12	.....	.....	.....	5	2.98	75.7
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	75.4	24.1	77	.....	6	11	4	.....	.....	5	5	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.80	756.9	29.97	761.2	65.7	18.7	61	9	2	3	8	1	1	3	4	.....	.....	.....	3	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.70	754.4	30.00	762.0	64.1	17.8	79	1	3	7	2	3	6	.....	9	.....	.....	.....	4	1.51	38.4
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.95	760.7	30.00	762.0	62.7	17.1	57	7	5	4	2	5	.....	3	5	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.71	754.6	29.99	761.7	61.5	16.4	71	4	4	1	9	.....	2	.....	11	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.86	758.4	29.91	759.7	85.1	29.5	66	.....	9	2	2	1	7	2	8	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.01	762.2	30.01	762.2	85.3	29.6	77	.....	.....	.....	.....	1	5	19	5	1	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.75	755.6	30.00	762.0	62.0	16.7	64	3	5	4	3	3	3	2	7	1	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.90	759.4	29.98	761.5	65.3	18.5	76	4	3	3	4	5	1	7	3	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.89	759 2	30.03	762.7	52.9	11.6	81	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.80*a*	756.9*a*	29 86*a*	758.4*a*	85.6	29.8	42	4	.....	.....	.....	7	2	.....	.....	17	1	.....	8	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.01	762.2	58.9	14.9	68	3	2	5	6	2	1	5	7	.....	.....	.....	2	.....	.....
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.94	760.5	29.99	761.7	63.1	17.3	73	8	6	3	3	1	6	4	.....	.....	.....	.....	9	2.60	66.0
Sub-series.																								6	.....	.....
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.59	751.6	29.96	761.0	87.5	30.8	54	3	7	5	1	5	4	4	2	.....	3484	5610	3	0	0
CANADIAN.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.92	760.0	29.97	761.2	59.6	15.3	.....	2	2	5	10	5	2	1	.....	4	.....	.....	6	5.23	132.8
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.90	759.4	29.94	760.5	62.7	17.1	80	1	4	4	5	5	3	.....	1	8	3963	6378	6	2.46	62.5
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.89	759 2	29.95	760.7	57.0	13.9	89	5	4	4	11	5	2	.....	.....	.....	2970	4780	6	4.15	105.4
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.74	755 4	29.93	760.2	57.3	14.1	91	.....	5	8	10	.....	1	5	2	.....	.....	.....	7	3.00	76.2
Dalhousie *a*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.88	759.0	29.94	760 5	58.9	14.9	.....	.....	1	20	.....	.....	.....	7	.....	.....	.....	.....	5	1.18	30.0
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.89	759.2	29.92	760.0	53.9	12.2	82	.....	2	15	8	.....	.....	.....	.....	.....	.....	.....	4	2.66	67.6
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.14	740.1	29.98	761.5	49.5	9.7	93	3	7	4	3	8	3	1	1	1	6136	9875	5	2.94	74.7
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.92	760.0	29.98	761.5	58.4	14.7	77	1	15	1	2	3	6	2	.....	1	3600	5794	8	4.67	118.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.92	760.0	29.98	761.5	58.7	14.8	80	10	3	.....	5	2	1	1	1	8	6696	10766	4	3.44	87.4
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.89	733.8	29.98	761.5	55.6	13 1	97	2	2	1	1	1	1	3	1	19	2513	4044	7	6.13	155.7
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.86	758.4	29.99	761.7	62.0	16.7	86	4	8	2	6	2	4	.....	.....	5	.....	.....	6	2.91	73.9
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.58	751.3	29.98	761.5	62.2	16.8	88	.....	1	1	16	.....	.....	.....	10	1	.....	.....	6	3.79	96.3
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.64	752.8	29.96	761.0	59.5	15.3	86	3	3	4	4	6	.....	2	7	2	4093	6587	6	2.30	58.4
Little Glace Bay *b*	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.90	759.4	29.94	760.5	67.5	19.7	73	3	.....	5	10	3	1	.....	1	.....	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.09	738.9	29.98	761 5	57.0	13.9	93	.....	.....	1	.....	2	.....	2	.....	26	.....	.....	6	5.87	149.1
Medicine Hat *a*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.69	703 3	29.93	760.2	56.1	13.4	72	4	2	2	6	3	1	2	3	7	.....	.....	4	1.39	35.3
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.13	714 5	29.98	761.5	45.2	7.3	95	2	3	6	.....	.....	1	7	3	9	4458	7174	7	1.96	48 3
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.75	755.6	29.96	761.0	59.9	15.5	82	4	6	4	6	10	1	.....	.....	.....	.....	.....	7	1.91	48.5
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	01	29.71	754.6	29.95	760.7	57.8	14.3	89	5	3	9	3	1	3	6	1	.....	3646	5868	6	1.91	48.5
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.28	743.7	29.97	761.2	56.1	13.4	90	7	2	3	2	2	7	5	1	2	6132	9868	6	3.57	90.7
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	59.1	15.1	90	2	1	1	3	.....	3	2	2	17	.....	.....	6	2.80	71.1
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.23	742.4	29.94	760.5	50.1	10.1	91	1	1	4	3	.....	1	.....	1	20	2551	4105	5	1.44	36.6
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.29	744.0	29.97	761.2	60.3	15.7	97	2	7	4	1	2	.....	1	4	10	3480	5600	7	5.94	150.9
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.32	744.7	29.96	761.0	58.8	14.9	89	6	9	5	1	.....	2	5	3	.....	.....	.....	6	4.63	117.6
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.73	704.3	30.00	762.0	48.9	9.4	88	3	3	4	3	7	2	1	.....	8	6275	10098	4	1.60	40.6
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.60	751.8	29.95	760.7	58.4	14.7	90	.....	4	8	6	.....	.....	.....	9	3	.....	.....	6	2.29	58.2
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.51	749.5	29.97	761.2	53.5	11.9	88	.....	6	7	3	1	2	5	.....	7	.....	.....	5	1.76	44.7
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.89	759.2	29.94	760.5	56.1	13.4	87	4	8	2	.....	6	7	1	.....	3	.....	.....	3	2.54	64.5
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.86	758.4	29.99	761.7	58.5	14.7	85	2	8	.....	1	9	2	3	.....	6	.....	.....	6	1.93	49.0
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.92	760.0	62.2	16.7	.....	.....	4	10	2	.....	6	1	3	1	.....	.....	.....	4.45	113.0
Sangeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.25	742.9	29.96	761.0	55.7	13.2	91	2	1	4	.....	4	2	3	4	11	5264	8471	6	2.82	71.6
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.73	729.7	29.94	761.7	56.7	13.7	90	4	2	.....	7	2	3	3	2	8	2690	4329	7	5.09	129.3
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.90	759.4	29.96	761.0	63.3	17.4	82	2	2	2	12	7	1	3	1	1	5597	9007	6	4.14	105.2
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.60	751.8	29.97	761 2	59.9	15.5	81	6	4	2	1	1	3	2	9	3	6494	10451	7	3.95	100.3
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.93	734.8	29.98	761.5	58.7	14.8	89	1	4	7	3	.....	3	1	6	6	.....	.....	7	3.98	151.9
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.92	760.0	30.01	762.2	59.2	15.1	96	4	7	2	1	7	2	7	.....	1	.....	.....	7	5.84	173.7
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.76	755.9	29.94	760.5	60.4	15.8	84	4	2	4	8	5	4	.....	4	.....	.....	.....	5	3.94	100.1
CAPE COLONY.																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.10	764.5	30.10	764.5	61.7	16.5	92	.....	.....	14	6	.....	.....	6	.....	5	.....	.....	4	2.02	51.3
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.08	764.0	.....	.....	61.1	16.2	65	1	6	4	2	.....	4	1	.....	13	.....	.....	4	3.80	96.5
Springbok	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.92	683.8	.....	.....	65.6	18.7	64	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.80	20.3
CHILIAN.																										
Coquimbo	S. 29 56	W. 71 21	7.15 a.m	72	22	29.94	760.4	29.98	761.4	51.8	11.0	86	2	....	1	4	5	11	6	2	.....	.....	.....	5	0.05	1.2
Iquique *b*	S. 20 12	W. 70 11	7.19 a.m	26	8	29.95	760.7	29.92	759.9	55.8	13.2	93	4	2	1	7	5	.....	2	8	.....	.....	.....	9	0	0
Niebla	S. 39 53	W. 73 25	7.06 a.m.	164	50	29.56	750.8	29.65	753.2	43.7	6.5	93	5	3	1	.....	.....	22	.....	.....	.....	.....	.....	7	16.25	412.8
Punta Caldera	S. 27 03	W. 70 53	7.16 a.m.	46	14	29.90	759.5	29.94	760.4	53.4	11.9	78	3	9	.....	8	1	5	1	4	.....	.....	.....	7	0	0
Punta Corona	S. 41 47	W. 73 53	7.04 a.m.	174	53	29.87	758.8	.....	.....	.....	.....	.....	1	5	8	5	4	3	.....	5	.....	.....	.....	8	5.83	148.0
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.86	758.4	30.05	763.2	49.8	9.9	81	3	7	6	1	4	8	1	1	.....	.....	.....	8	5.91	150.1
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	135	41	29.93	760.2	30.00	762.1	52.2	11.2	84	6	1	...	8	9	3	1	3	.....	.....	.....	1	1.41	35.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
	o ′	o ′																							o–10		
Chinese.																											
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.61	752.1	29.66	753.4	79.3	26.3	86	1	2	2	3	5	6	7	5	.....	.....	.....	8	27.88	708.1
Sub-Series.																											
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.72	754.9	29.71	754.5	79.2	26.2	90	.....	3	.....	1	1	11	11	4	.....	.....	.....	4	2.08	52.8
Danish.																											
Copenhagn	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.78	756.4	29.86	758.4	60.6	15.9	74	5	6	6	2	6	2	3	1	.....	.....	.....	8	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.84	758.0	29.89	759.3	61.9	16.6	68	1	6	14	2	3	1	2	2	.....	.....	.....	5	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.89	759.1	29.95	760.6	49.3	9.6	.....	1	.....	.....	.....	2	9	.....	19	.....	.....	.....	9	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.99	761.8	30.09	764 2	50.2	10.1	78	.....	1	7	2	5	5	2	4	5	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.98	761.6	30.05	763 2	51.1	10.6	77	10	1	2	3	.....	1	6	4	4	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.76	755.8	29.88	759.0	60.1	15.6	69	3	6	8	1	4	.....	2	7	...	.....	.....	6	.....	.....
French.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.35	745.4	29.97	761.3	78.4	25.8	53	3	12	5	7	.....	2	2	.....	.....	.....	.....	.....	1.13	28.6
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.46	748.3	30.01	762.2	68.5	20.3	60	.....	3	2	8	2	1	.....	15	.....	.....	.....	.....	0.38	9.6
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.76	755.8	30.00	762.1	67.6	19.8	58	2	12	5	2	1	.....	.....	9	.....	.....	.....	5	0.73	18.6
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.70	754.3	29.78	756.3	82.0	27.8	49	17	2	.....	2	7	2	.....	1	.....	.....	.....	.....	2.87	73.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.41	747 1	29.97	761.1	69.3	20.7	59	.....	3	3	6	3	3	6	7	.....	.....	.....	6	2.22	56.4
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	29.66	753.3	29.96	760.9	69.4	20.8	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.74	44.1
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.11	739 4	29.88	759.0	73.8	23.2	55	1	4	2	13	2	2	.....	7	.....	.....	.....	.....	2.45	62.2
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.70	754.4	29.95	760.8	75.6	24.2	48	3	6	5	9	.....	3	3	2	.....	.....	.....	5	2.12	53.8
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.41	747 0	29.93	760.1	73.6	23.1	50	.....	6	6	3	2	3	3	6	2	.....	.....	3	1.91	48.4
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.77	756.2	30.03	762.7	70.0	21.1	68	4	1	3	7	3	1	1	8	3	.....	.....	5	2.22	56.5
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.78	756.3	29.97	761.3	69.1	20.6	58	6	5	2	7	2	1	2	6	.....	.....	.....	5	0.81	20.5
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.65	753.0	29.97	761.3	69.8	21.0	58	3	1	4	9	6	2	1	5	.....	.....	.....	.....	2.53	64.2
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.45	748.0	29.97	761.3	69.8	21.0	53	4	7	2	5	3	1	4	5	.....	.....	.....	6	1.65	41.9
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.60	726 5	29.92	759.9	73.2	22.9	49	10	4	4	3	1	2	4	3	.....	.....	.....	6	2.42	61.4
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.11	739 4	29.93	760.3	73.8	23.2	44	.....	4	8	5	5	.....	.....	9	.....	.....	.....	5	3.40	86.3
Commercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.21	741 9	30.04	762.9	67.8	19.9	72	.....	3	12	5	3	.....	4	4	.....	.....	.....	5	3.46	88.0
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.20	690 8	29.84	758.0	77.4	25.2	46	1	.....	.....	.....	13	10	1	3	3	.....	.....	3	3.58	91.0
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.81	731.7	29.87	758.8	81.5	27.5	40	.....	.....	.....	.....	1	14	14	2	.....	.....	.....	3	0.73	18.6
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.27	743.4	30.01	762.3	74.5	23.6	56	2	11	9	.....	.....	.....	3	3	3	.....	.....	.....	3.28	83.4
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.40	721.3	29.90	759.4	69.1	20.6	62	9	4	8	4	6	.....	.....	.....	.....	.....	.....	.....	5.88	149.4
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.72	754.8	30.00	762.1	69.4	20.8	62	5	5	4	3	1	1	5	7	.....	.....	.....	3	0.92	23.4
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.40	746.7	29.91	759.8	75.6	24.2	66	2	1	14	2	1	.....	2	9	.....	.....	.....	5	2.67	67.9
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.89	759.2	29.99	761.8	71.6	22.0	79	2	2	2	6	9	1	1	8	.....	.....	.....	.....	1.79	45.6
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.91	734.2	29.92	760.0	74.5	23.6	49	12	5	.....	.....	6	9	3	5	2	.....	.....	5	3.04	77.3
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.79	756.7	29.98	761.4	69.6	20.9	64	6	4	5	2	3	2	3	6	.....	.....	.....	.....	0.37	9.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.64	752.8	29.89	759.3	79.9	25.6	52	.....	2	15	7	3	3	1	.....	.....	.....	.....	.....	0.46	11.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.93	633.1	29.77	756.1	64.8	18.2	49	.....	3	16	4	1	2	4	1	.....	.....	.....	5	2.17	55.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.73	756.5	29.89	759.2	81.5	27.5	56	8	7	5	.....	3	4	4	.....	.....	.....	.....	.....	6.44	163.7
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.93	607.7	.....	.....	.....	.....	.....	5	6	3	3	12	2	.....	.....	.....	.....	.....	.....	3.24	82.3
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.22	742.2	29.98	761.5	69.4	20.8	47	5	15	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	2.32	59.0
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.84	758 0	30.00	762.1	72.7	22.6	49	6	2	3	8	2	1	4	5	.....	.....	.....	6	0.86	21.8
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.82	757.3	29.98	758.9	83.1	28.4	83	1	1	10	.....	9	1	7	1	1	.....	.....	.....	0	0
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.82	757.4	29.93	760.1	78.4	25.8	54	.....	7	4	.....	.....	3	13	4	.....	.....	.....	6	1.31	33.4
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.33	541.8	.....	.....	47.5	8.6	.....	.....	1	3	13	.....	.....	.....	.....	14	.....	.....	.....	3.81	96.9
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.88	733.6	30.02	762.4	78.3	25.7	48	5	2	.....	.....	12	3	1	2	6	.....	.....	.....	9.15	232.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.19	639.7	.....	.....	53.1	11.7	72	.....	3	7	11	1	1	3	5	.....	.....	.....	6	4.14	105.1
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.94	760.4	29.97	761.2	73.6	23.1	63	3	9	3	1	1	1	2	11	.....	.....	.....	3	2.46	62.4
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.68	753.9	29.95	760.7	75.9	24.4	56	3	4	6	4	1	2	2	9	.....	.....	.....	4	0.57	14.5
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.87	708.0	29.92	759 9	77.2	25.1	58	2	.....	1	15	.....	2	3	7	1	.....	.....	4	2.51	63.7
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.92	760.0	29.98	761 5	69.8	21.0	59	4	7	3	6	2	2	4	3	.....	.....	.....	6	0.80	20.3
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.82	757.5	29.99	761.7	69.4	20.8	49	7	6	3	6	5	1	.....	3	.....	.....	.....	5	2.31	58.6
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.29	743.9	30.01	762.2	77.5	25.3	54	1	19	1	2	.....	6	2	.....	.....	.....	.....	5	2.52	64.1
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.80	756.9	29.97	761.2	72.1	22.3	50	6	4	3	4	4	2	3	5	.....	.....	.....	4	1.38	35.1
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.52	749.9	29.97	761.2	67.5	19.7	52	1	3	6	4	2	1	6	8	.....	.....	.....	4	1.99	50.6
Sub-Series.																											
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.84	757.8	29.98	761.6	73.4	23.0	66	8	2	7	1	2	.....	7	4	.....	.....	.....	6	5.00	126.9
German.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.53	724.7	29.94	760.5	66.0	18.9	53	2	7	6	6	1	1	.....	6	2	.....	.....	5	2.11	53.6
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.19	741.5	29.94	760.5	67.5	19.7	56	6	8	14	1	.....	.....	1	1	.....	.....	.....	6	3.81	96.8
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.76	755.8	29.92	760.0	63.7	17.6	65	.....	14	9	2	2	...	2	1	1	.....	.....	7	4.00	101.7
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.39	746.5	29.94	760.4	64.4	18.0	56	2	7	9	4	4	2	3	.....	.....	.....	.....	7	3.78	96.0
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.50	749 4	29.96	761 0	68.5	20.3	58	2	.....	1	15	.....	2	3	7	1	.....	.....	5	5.39	136.8
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.20	741.7	29.94	760.5	64.2	17.9	59	6	9	5	5	4	.....	.....	2	.....	.....	.....	6	4.74	120.5
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.56	750.9	29.98	761.5	68.9	20.5	51	4	4	8	3	1	2	1	8	.....	.....	.....	5	1.03	26.1
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.55	725.2	29.91	759.7	70.5	21.4	63	2	1	4	19	2	.....	.....	3	.....	.....	.....	5	4.88	123.5
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.82	757.5	29.93	760.2	61.7	16.5	68	1	7	12	6	1	2	.....	2	.....	.....	.....	7	2.74	69.6
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.85	758.3	29.89	759 2	61.3	16.3	64	2	10	7	4	1	1	2	4	.....	.....	.....	7	2.26	57.5
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.50	749.4	29.93	760.2	65.3	18.5	58	.....	9	6	6	2	1	.....	6	.....	.....	.....	7	3.14	79.7
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.71	754.6	29.91	759.8	65.1	18.4	62	2	3	18	1	3	1	.....	2	1	.....	.....	7	2.28	57.8
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.80	756.9	29.87	75[illegible]8	62.6	17.0	72	4	5	8	4	3	4	2	1	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28 14	714.8	30.02	762.4	68.5	20.3	47	2	11	4	.....	.....	1	2	7	4	.....	.....	5	2.92	74.3
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.82	757.3	29.87	758.8	62.4	16.9	68	8	1	8	2	3	2	3	4	.....	.....	.....	7	1.65	41.9
Neustadt a	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.41	746.9	29.94	760.5	69.3	20.7	56	3	2	5	5	1	1	1	8	4	.....	.....	7	2.81	71.5
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.07	738.3	29.95	760 6	68.7	20.4	53	6	8	4	6	.....	3	.....	4	.....	.....	.....	5	1.86	47.2
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.85	758.1	29.89	759.3	62.1	16.7	71	6	11	4	4	1	1	2	2	.....	.....	.....	5	3.15	80.0
Greek.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.53	750.0	29.67	758.7	87.0	30.8	50	2	.....	1	5	10	1	1	11	.....	.....	.....	1	0	0
Indian.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.49	748.9	29.48	748.9	85.8	29.9	72	.....	.....	15	16	.....	.....	.....	.....	.....	.....	.....	6	2.00	50.8
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29 08	738.6	29.54	750.4	85.8	29.9	67	.....	1	8	18	2	.....	1	1	.....	.....	.....	9	8.82	224.0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.68	753 9	29.66	753.3	80.4	26.9	84	.....	.....	17	14	.....	.....	.....	.....	.....	.....	.....	9	25.49	647.4
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.87	707.8	29.72	755.0	76.2	25.6	79	.....	4	7	17	3	.....	.....	.....	.....	.....	.....	8	3.92	99.6
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.23	691.6	29.70	754.5	71.0	21.7	88	.....	.....	.....	11	2)	.....	.....	.....	.....	.....	.....	9	12.63	320.8
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.76	730.4	29.40	746.8	93.1	33.9	56	2	.....	3	2	2	7	6	3	6	.....	.....	4	4.43	112.5
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.61	726.6	29.44	747.8	85 7	29.8	77	.....	.....	.....	2	1	.....	8	.....	1	19	.....	6	27.04	686.8
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.93	734.8	29.49	748.9	84.6	29.2	80	.....	8	2	2	.....	11	6	2	.....	.....	.....	8	13.38	339.8
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.56	725.5	29.53	750.0	82.5	28.1	70	4	9	9	3	.....	.....	.....	.....	.....	.....	.....	9	7.13	181.1
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.23	717.0	29.51	749.6	79.0	26.1	83	.....	2	6	4	.....	.....	.....	.....	19	.....	.....	9	12.51	317.7
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.15	740.4	29.47	748.6	83.3	28.5	81	9	7	1	1	1	1	1	8	2	.....	.....	8	14.61	371.1
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.20	741.7	29.46	748.2	83.1	28.4	87	.....	3	2	3	1	1	5	2	14	.....	.....	8	11.83	300.5
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.34	745.2	29.47	748.6	83.9	28.8	82	2	1	7	.....	2	1	10	2	.....	.....	.....	8	11.83	300.5
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.55	699.7	29.48	748.7	76.8	24.9	86	2	7	8	1	2	4	5	1	1	.....	.....	10	16.76	425.7
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.48	748.8	29.50	749.3	83.6	28.7	80	.....	.....	.....	2	2	.....	.....	.....	1	26	.....	7	6.65	168.9
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.51	749.6	29.18	748.8	80.9	27.2	88	2	1	4	7	6	6	2	2	1	.....	.....	9	26.50	673.1
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.45	748.0	29.52	749.7	83.1	28.4	84	.....	.....	.....	.....	.....	1	5	.....	25	.....	.....	8	6.53	165.9
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.53	750.0	29.56	750.9	80.0	26.7	88	.....	.....	.....	1	3	18	9	.....	.....	.....	.....	9	17.98	456.7
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.25	742.8	29.53	749.9	85.7	29.8	80	1	.....	.....	1	7	1	5	4	12	.....	.....	9	9.05	229.9
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.09	713 5	29.50	749.4	84.2	29.0	73	3	10	6	3	.....	4	5	.....	.....	.....	.....	8	15.69	398.5
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.23	717.0	29.60	751.7	87.3	30.7	51	.....	1	16	13	1	.....	.....	.....	.....	.....	.....	8	0.02	0.5
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.48	748.9	29.68	754.0	93.0	33.9	44	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	1.42	36.1
Italian.																											
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.45	748 0	29.84	758.0	76.5	24.7	55	.....	.....	2	13	3	3	2	.....	8	.....	.....	4	9.50	252.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.40	746.8	29.90	759.5	78.1	25.6	57	2	1	13	7	2	4	1	1	.....	.....	.....	6	5.60	142.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
ITALIAN—Con.	° ′	° ′																									
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.80	756.8	29.90	759.4	77.7	25.4	83	4	1	5	11	3	3	2	2	.....	.....	.....	4	3.04	77.1
Moncalliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.00	736.6	29.87	758.8	76.3	24 6	67	2	.....	8	.....	7	3	2	9	.....	.....	.....	6	1.70	43.2
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.70	754.4	29.89	759.1	79.2	26.2	60	4	1	1	7	4	14	.....	.....	.....	.....	.....	4	3.20	81.2
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.86	758.4	29.91	759.6	77.9	25.5	67	1	3	2	10	.....	3	3	9	.....	.....	.....	5	3.14	79.8
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.63	752 7	29.88	758.9	83.1	28.4	44	1	5	1	.....	3	8	6	7	.....	.....	.....	4	3.58	90.9
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.80	756.9	29.88	759.0	81.3	27.4	60	2	5	.....	1	4	6	11	2	.....	.....	.....	4	2.05	52.1
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.72	755.0	29.88	759.0	87.3	30.7	42	.....	2	.....	.....	.....	10	10	8	.....	1	.....	4	1.76	44.7
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.67	753.5	29.89	759.3	86.4	30.2	42	6	10	3	2	6	4	.....	...	.....	.....	.....	2	0.19	4.9
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.05	737.9	29.88	758.9	87.3	30.7	61	.....	.....	2	5	.....	2	17	5	.....	.....	.....	2	0.43	11.0
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.70	754.3	29.92	759.9	90.3	32.4	45	1	20	6	.....	.....	2	1	1	.....	.....	.....	2	0.22	5.7
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.87	758.7	29.89	759.3	87.1	30.6	66	4	3	11	6	4	1	2	.....	.....	.....	.....	4	0.78	19.8
Sub-Series.																											
Naples *b*	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.40	746.8	.....	... .	83.1	28.4	56	1	.....	9	9	2	.....	3	5	.....	.....	.....	3	1.01	30.8
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22.23	564.7	.....	.....	49.6	9.8	61	.....	.....	13	10	.....	.....	.....	8	.....	.....	.....	6	3.40	86.4
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.15	562.5	.....	.....	52.2	11.2	70	1	6	9	11	1	2	.....	1	.....	.....	.....	8	2.50	63.5
JAPANESE.																											
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.83	757.8	29.85	758 2	73.8	23.0	86	3	4	5	3	.....	2	1	.....	13	.....	.....	5	6.66	164.1
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.82	757.5	29.85	758.2	72.0	22.2	86	5	2	1	6	6	.....	3	.....	8	.....	.....	6	3.22	81.3
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.83	757.8	29.83	757.7	68.4	20.2	89	2	3	3	3	.....	4	7	3	6	5256	8458	6	10.50	268.0
Hamamtsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.81	757.0	29.83	757.7	76.7	24.8	88	1	.....	.....	3	2	1	2	10	.....	.....	.....	5	4.11	104.3
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.84	757.8	29.83	757.7	79.8	26.6	81	7	4	2	2	6	1	1	4	4	3278	5274	4	2.26	57.3
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.78	756.3	29.85	758.2	76.7	24.8	84	1	.....	.....	2	4	4	6	7	7	2509	4037	5	6.47	164.3
Kago-shima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.87	758.8	29.86	758.4	78.4	25.8	84	1	10	3	1	.....	.....	8	1	7	3558	5726	4	9.72	246.7
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.71	754.6	29.86	758.4	77.5	25.3	81	5	1	.....	2	5	.....	6	6	7	1909	3064	4	4.79	121.6
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.86	758.6	29.86	758.4	78.6	25.9	88	8	3	8	2	.....	2	8	.....	.....	4734	7619	6	4.17	105.0
Misaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.86	758.5	29.86	758.4	78.6	25.9	88	4	.....	10	.....	5	.....	12	.....	.....	.....	.....	4	4.03	102.3
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.77	756.2	29.87	758.7	70.5	21.4	90	1	.....	11	6	4	.....	.....	.....	9	1354	2179	6	3.07	77.9
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.67	753.6	29.84	757.9	78.9	26.1	83	3	.....	.....	15	4	2	3	1	3	29.0	4812	4	6.27	159.3
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.81	757.1	29.86	758.4	60.3	15.7	97	2	.....	4	8	8	.....	4	4	1	4530	7290	8	4.23	107.4
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.84	757.8	29.85	758.2	76.4	24.7	81	6	2	.....	2	1	5	1	2	12	4156	6688	4	9.35	237.5
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.86	758 5	29.86	758.4	72.6	22.6	88	4	.....	1	3	15	3	3	2	.....	7616	12257	6	1.56	39.8
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.87	758.7	29.88	758.9	76.9	24.9	84	2	1	4	7	4	1	8	4	.....	.....	.....	7	5.65	143.6
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.82	757.5	29.84	757.9	79.9	26.6	78	.....	2	14	7	.....	.....	3	5	.....	7862	12653	5	1.00	26.7
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.85	758.2	29.84	757.9	78.1	25.6	82	6	1	2	6	.....	1	1	9	5	4056	6527	5	2.85	72.3
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.72	755.0	29.84	757.9	78.2	25.7	85	.....	.....	1	1	.....	.....	8	.....	21	.....	.....	3	3.60	91.4
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.76	755.8	29.81	757.2	67.8	19.9	90	4	3	.....	1	9	6	1	.....	7	6043	9698	7	5.64	144.3
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.83	757.8	29.89	759.2	76.1	24.5	86	1	.....	.....	.....	21	4	5	...	.....	6383	10273	3	4.07	103.2
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.81	757.1	29.83	757.7	79.4	26.3	73	2	.....	.....	.....	.....	4	1	1	1	22	2376	3825	3	1.16	29.5
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.96	761.0	29.99	761.7	72.1	22.3	67	2	.....	.....	.....	.....	10	17	2	.....	.....	.....	6	2.76	70.1
MEXICAN.																											
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.69	601 8	29.89	759 2	60.4	15.8	82	1	10	.....	1	.....	.....	.....	19	.....	.....	.....	5	6.32	160.6
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.35	618.5	29.93	760.2	60.8	16.0	86	2	12	5	2	4	3	1	2	.....	.....	.....	9	5.19	131.8
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.66	753.3	29.91	759.8	77.6	25.3	86	.....	1	.....	1	.....	10	11	8	.....	.....	.....	7	20.09	510.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.10	582.6	30.08	764.1	55.0	12.8	84	2	11	3	3	.....	.....	.....	.....	12	.....	.....	5	3.96	100.6
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.45	595.5	30.08	763.9	62.1	16.8	67	4	2	.....	.....	.....	.....	.....	3	22	.....	.....	5	8.97	227.8
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.98	761.6	30.00	762.1	64.9	18.3	.....	6	3	5	5	3	1	.....	6	2	.....	.....	.....	1.35	34.3
Grentugen *a*	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.87	758.7	29.95	760.7	61.5	16.4	.....	12	5	3	2	1	.....	2	5	.....	.....	.....	.....	3.52	89.3
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.94	760.4	29.96	760.9	60.6	15.9	.....	4	11	3	6	1	.....	.....	6	.....	.....	.....	.....	2.80	71.0
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.96	761.0	29.94	760.5	63.9	17.7	.....	2	9	6	4	1	.....	3	4	2	.....	.....	.....	2.25	57.1
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.92	760.0	29.98	761.6	66.2	19.0	.....	6	7	5	5	3	.....	.....	5	.....	.....	.....	4	1.80	45.8
Sub-Series.																											
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.78	756 5	80.1	26.7	73	2	.....	.....	.....	.....	.....	4	17	8	.....	.....	5	0.47	12.0
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.79	756.7	29.89	759.3	59.5	15.3	65	2	9	8	3	5	2	.....	2	.....	.....	.....	4	4.80	121.9
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.85	758 2	29.96	760.9	55.2	12.9	70	15	4	.....	6	.....	1	2	.....	3	.....	.....	6	1.85	47.0
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.63	753.9	29.87	758.6	61.5	16.4	59	7	6	1	4	5	.....	2	6	.....	.....	.....	8	3.47	88.1
Gjesvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.92	759.9	30.00	762.1	53.1	11.7	.....	1	1	7	4	2	4	4	2	6	.....	.....	6	1.24	31.6
PORTUGUESE.																											
Campo	N. 39 02	W. 6 59	11.40 a.m.	945	288	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	29.99	761.8	30.05	763 2	74.8	23.8	66	.....	.....	1	26	3	.....	.....	.....	1	.....	.....	3	0	0
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.68	753.8	29.98	761.6	73.0	22.8	56	.....	11	5	4	7	4	.....	.....	.....	.....	.....	3	1.24	31.6
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.05	763.2	30.10	764.5	76.1	24.5	65	4	1	7	7	4	1	.....	3	4	.....	.....	5	2.61	66.2
Saint Vincent *n*	N. 16 37	W. 25 02	10.20 a.m.	35	10	29.87	758.8	29.85	758.1	81.5	27.5	60	7	.....	.....	.....	.....	.....	.....	7	3	.....	.....	5	0.14	3.5
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.08	713.2	29.82	757.5	82.4	28.0	49	.....	1	7	4	1	.....	.....	.....	18	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.33	643.4	29.91	759.8	62.1	16.7	54	2	7	8	2	3	1	6	2	.....	.....	.....	4	2.92	74.1
ROUMANIAN.																											
Bucarest	N. 44 25	E. 27 06	1.53 p.m.	366	112	29.58	751.3	29.97	761.1	80.4	26.9	48	2	.....	7	7	5	2	5	3	.....	.....	.....	5	0.83	21.1
RUSSIAN.																											
Akmolinsk *k*	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.63	727.2	29.68	753.9	68.0	20.0	54	3	3	2	1	.....	2	3	4	2	.....	.....	5	2.20	56.0
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.94	760.6	30.01	762.2	62.1	16.7	52	3	5	2	3	1	3	4	8	2	.....	.....	4	0.41	10.5
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	29.87	758.7	29.80	756.9	80.4	26.9	50	3	3	7	7	2	2	5	1	1	.....	.....	6	2.23	56.6
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	29.85	758.1	29.79	756 7	80.4	26.9	03	10	1	.....	.....	.....	8	3	1	2	.....	.....	2	0.02	0.4
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.26	743 1	29.76	755.9	66.7	19.3	53	2	14	2	4	.....	1	.....	3	5	.....	.....	6	0.98	24.9
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.60	751.7	29.86	758.4	64.6	18.1	63	3	2	3	3	5	4	8	2	1	.....	.....	8	2.52	64.1
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.83	732.3	29.80	756.9	58.6	14.8	73	3	8	3	2	1	4	4	3	3	.....	.....	8	3.10	78.8
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.44	747.9	29.89	759.2	73.6	23.1	56	2	10	7	3	4	2	1	2	.....	.....	.....	8	0.22	5.7
Kasalinsk *b*	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.52	749.7	29.69	754.1	84.6	29.2	31	6	5	7	1	.....	3	3	2	.....	.....	.....	3	0.08	2.0
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.55	750.6	29.84	757.9	67.5	19.7	55	7	2	3	6	2	2	3	6	.....	.....	.....	7	1.78	45.1
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.94	760.5	30.04	763.0	58.1	14.5	66	1	.....	4	3	.....	2	8	13	.....	.....	.....	7	0.89	22.5
Kertch *b*	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.89	759.3	29.92	760.0	76.3	24.6	61	9	5	.....	.....	1	2	2	1	3	6	.....	4	1.82	46.2
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.26	743.2	29.87	758.7	67.0	19.8	71	4	8	6	5	2	3	1	2	.....	.....	.....	7	4.06	103.1
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.30	744.1	29.80	756.9	67.6	19.8	61	2	2	6	5	2	1	3	7	3	.....	.....	7	2.35	59.8
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.31	744 4	29.89	759.2	70.0	21.0	54	2	3	7	6	1	2	4	4	2	.....	.....	8	3.35	85.0
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.80	756.8	29.85	758.2	00.4	15.8	75	1	5	11	4	4	2	3	1	.....	.....	.....	6	5.63	143.1
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.69	754.2	29.90	759.4	75.6	24.2	48	4	5	8	4	2	2	3	3	.....	.....	.....	6	2.87	72.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.37	746.0	29.86	758 4	66.4	19.1	61	2	4	3	2	2	2	5	7	4	.....	.....	6	3.85	97.7
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.58	700.5	29.80	756.9	61.2	16.2	64	.....	.....	.....	.....	.....	.....	.....	...	1	26	.....	4	2.52	63.0
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.82	757.5	29.89	759.2	77.5	25.3	33	3	4	5	3	2	2	.....	2	10	.....	.....	4	0.86	21.9
Nikolaievsk *a*	N. 53 08	E.140 45	9.23 p.m.	59	18	29.62	752.2	29.72	754.9	56.3	13.5	80	1	1	3	.....	.....	2	5	3	15	.....	.....	6	.....	.....
Nikolsk *a*	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.50	749.4	29.95	761.5	63.9	17.7	52	5	4	1	.....	.....	5	2	11	2	.....	.....	9	0.78	19.8
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.41	747.1	29.73	755.1	91.2	32.9	24	7	2	4	.....	.....	1	1	14	2	.....	.....	2	0	0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.72	754.8	29.95	760.7	62.8	17.1	64	1	5	2	1	1	6	10	5	.....	.....	.....	5	2.04	51.9
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.35	745 5	29.80	758.4	65.5	18.6	64	2	8	9	2	1	3	4	1	1	.....	.....	7	5.30	134.6
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.85	758.1	29.87	758.7	77.2	25.1	84	1	13	1	15	.....	.....	.....	1	.....	.....	.....	3	14.06	378.4
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.84	757.9	29.90	759.4	65.1	18.4	56	1	5	3	3	4	3	4	8	.....	.....	.....	6	2.62	66.6
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.32	693 8	29.61	752.1	85.8	29.9	45	.....	.....	1	.....	.....	2	5	3	20	.....	.....	0	0	0
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.09	738.9	29.73	755.1	73.4	23.0	45	4	2	4	.....	2	.....	1	17	.....	.....	.....	4	1.03	26.2
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.68	753.9	29.89	759.2	77.5	25.3	54	4	11	7	6	3	.....	.....	.....	.....	.....	.....	3	0.94	23.9
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.28	743.8	29.84	757 9	66.4	19.1	66	2	2	4	3	1	11	4	4	.....	.....	.....	8	2.93	74.1
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.06	712 7	29.57	751.1	93.6	34.2	37	.....	10	7	2	.....	.....	.....	.....	12	.....	.....	0	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.44	722 4	29.77	756.1	82.2	27.9	39	2	11	.....	.....	1	6	8	.....	1	2	.....	4	2.89	73.5
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.45	748.1	29.89	759.2	64.8	18.2	63	6	4	9	3	4	3	1	.....	1	.....	.....	7	2.43	61.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
Russian—Con.	o /	o /																								
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.55	750.5	29.86	758.4	61.3	16.3	68	2	2	.....	.....	.....	7	5	.....	15	.....	.....	7	1.77	45.0
Sub-Series.																										
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.25	742.9	29.88	758.9	66.1	18.9	58	2	4	6	2	1	3	6	6	1	.....	.....	6	3.65	92.7
Spanish.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.78	756.4	29.93	760.3	79.7	26.5	69	....	.....	1	4	8	3	13	2	.....	.....	.....	5	0.31	8.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.52	759.9	29.98	761.4	77.2	25.1	63	1	17	2	.....	1	3	.....	.....	7	1285	2068	7	7.32	185.9
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27 07	687.6	29.91	759.7	72.1	22.3	62	3	....	1	6	5	.....	6	10	....	4339	6983	4	2.35	59.6
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.76	705 2	29.86	758.4	82.2	27.9	87	. ...	1	2	14	5	1	.....	2	6	5790	9318	3	0.89	22.6
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.06	738.2	29.95	760.8	72.0	22.2	64	4	1	.. ...	13	1	1	.....	4	7	4795	7716	6	4.31	109.5
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.95	760.7	29.96	761.0	77.3	25.2	86	.....	.....	.....	.....	2	17	10	2	.....	.....	.....	3	4.55	115.6
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.78	756.3	29.83	757.8	80.2	26.8	84	2	2	9	6	4	3	3	2	.....	7121	13188	7	6.72	170.7
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.90	759.4	29.98	761.5	77.8	25.4	64	.....	...	24	3	1	.....	2	.....	1	.....	.....	2	1.61	40.8
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.95	760.8	29.98	761.6	82.0	27.8	82	.....	.....	.....	.....	1	5	14	5	3	3	.....	.....	4	3.50	88.9
Swedish.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.90	754.9	29.99	761 7	59.5	15.3	64	4	....	.....	.6	6	3	1	11	.....	.....	.....	5	0.49	12.4
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.85	758.2	29.95	760.7	59.7	15.4	69	5	.....	.....	11	1	.....	5	9	...	.....	.....	6	3.33	84.6
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.82	757 3	29.91	759.7	58.8	14.9	71	4	.....	.....	1	7	3	9	7	.....	.....	.....	6	3.42	87.0
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.63	752.5	29.84	757.9	59.7	15.4	69	3	3	3	2	4	2	2	6	6	.....	.....	6	4.32	109.8
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.70	754.4	29.79	756.7	60.3	15.7	72	7	2	5	3	1	4	7	2	.....	.....	.....	6	5.02	127.4
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.63	752 5	29.73	755.1	59.2	15.1	74	8	3	2	2	4	2	3	7	.....	.....	.....	8	5.48	139.1
Turkish.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.90	759 4	79.3	26.3	.....	15	2	.....	6	3	1	.....	4	.....	.....	.....	2	0	0
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.12	765.1	87.1	30.6	.....	.....	3	8	10	9	....	.....	1	.....	.....	.....	1	0.91	23.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.71	754.6	86.5	30.5	.....	5	1	15	10	.....	.....	.....	.....	.....	.....	.....	1	0	0
United States.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.90	759 4	29.97	761.2	57.4	14.1	84	3	8	2	.....	8	.....	2	1	7	4277	6883	3	4.26	108.2
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.87	758.7	29.97	761.2	62.2	16.8	82	4	9	3	2	4	2	1	5	1	5025	8087	5	5.91	150.1
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.85	605.8	29.93	760.2	41.7	5.4	86	2	12	7	4	2	2	.....	1	1	18760	30181	3	14.26	362.2
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.86	758.4	29.98	761.5	64.4	18.0	80	9	7	4	5	1	2	1	2	. ...	7431	11958	5	7.64	194.1
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.97	761.2	29.99	761.7	67.1	19.5	85	4	.....	1	7	2	6	1	10	.....	8336	13416	6	3.15	80.0
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.96	761.0	30.00	762 0	66.2	19.0	87	9	4	2	6	1	1	1	.....	7	4518	7271	6	7.69	195.3
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.89	759.2	29.99	761.7	64.1	17.8	85	13	2	2	5	4	.....	1	3	1	4675	7523	5	8.13	206.5
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.93	760.2	30.01	762.2	63.1	17.3	77	4	2	.....	12	4	1	1	5	2	4826	7767	6	7.58	192.5
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.84	757.9	30.00	762.0	67.6	19.8	83	5	2	7	3	1	1	3	6	3	5103	8220	4	7.70	195.6
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.88	758 9	30.00	762.0	67.7	19.8	83	4	5	3	4	5	1	1	4	5	6431	10350	4	6.80	172.7
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.98	761.5	30.00	762 0	68.7	20.4	84	7	4	4	5	6	1	1	3	.....	10616	17085	4	5.48	139.2
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.98	761.5	29.98	761.5	70.5	21.4	86	6	1	3	7	5	2	4	2	1	5937	9554	4	4 50	114.3
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	29.97	761.2	29.98	761.5	71.2	21.8	84	9	1	7	4	2	3	2	1	2	9310	14983	5	6.14	156.0
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	29.96	761.0	29.97	761.2	71.5	21.9	82	3	2	3	3	4	7	4	5	.....	9450	15208	5	3.47	88.1
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.96	761.0	29.99	761 7	70.5	21.4	78	7	2	6	3	2	4	2	5	.....	4073	6555	6	7.78	197.6
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.91	759.7	30.00	762.0	68.5	20.3	83	4	5	2	1	6	3	3	3	4	3466	5578	4	6.49	164.8
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.99	761.7	29.98	761.5	72.9	22.7	82	4	2	2	5	1	3	3	7	4	5348	8607	4	1.94	49.3
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.99	761.7	29.99	761.7	73.6	23.1	83	3	1	2	9	5	2	1	7	1	8780	14130	4	2.87	72.9
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.34	745 2	29.99	761.7	69.5	20.8	84	1	3	3	4	2	1	2	4	11	2021	3253	4	1.56	39.6
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.97	761 2	29.98	761.5	75.0	23.9	81	2	.....	3	9	.....	7	2	7	1	5250	8449	5	2.39	60.7
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.00	762.0	29.99	761.7	75.7	24.3	86	2	1	4	6	2	3	6	6	1	9537	15348	4	3.43	87.1
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.99	761.7	29.98	761.5	77.4	25.2	83	4	2	2	6	1	2	3	7	.....	7143	11495	4	5.97	151.6
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.00	762.0	29.98	761.5	76.9	24.9	94	6	2	2	6	5	1	.....	8	1	10126	16293	5	7.73	196.3
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.97	761.2	29.98	761.5	76.8	24.9	86	3	6	5	2	5	3	.....	6	1	7780	12520	5	5.92	150.4
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	29.96	761.0	29.99	761 7	76.5	24.7	84	2	2	6	6	4	2	1	8	.....	4127	6641	5	5.87	149.1
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.19	741 4	29.99	761.7	72.2	22.3	80	2	3	1	5	3	1	4	8	4	2704	4351	4	4.01	101.9
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.95	760.7	29.97	761.2	77.2	25.1	87	.....	.....	7	4	.....	1	4	7	8	4549	7321	6	19.18	487.2
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.85	758.2	30.00	762.0	73.6	23.1	88	2	1	1	5	3	5	3	8	3	2314	3724	5	3.38	85.9
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.92	760.0	29.98	761.5	77.9	25.5	86	3	3	5	8	3	3	3	.....	.....	4660	7499	4	14.38	365.2
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.97	761.2	29.98	761.5	78.0	25.6	86	1	....	... ..	12	8	1	.....	4	5	5057	8138	4	7.56	192.0
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	29.97	761.2	29.95	760 7	80.3	26.8	87	2	2	5	6	1	6	3	6	.....	6044	9726	7	10.09	256.3
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.01	762.2	29.98	761.5	83.9	28.8	79	1	.....	.....	1	7	8	9	4	1	4823	7762	6	2.55	64.8
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.00	762.0	29.98	761.5	77.6	25.3	92	4	1	1	8	10	2	4	1	.....	3643	5863	3	6.75	171.4
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.88	733.5	30.01	762.2	71.5	21.9	87	2	8	4	1	3	3	6	4	.....	5139	8270	4	6.92	175.8
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.97	761.2	29.96	761.0	77.4	25.2	91	2	6	3	2	3	2	.....	5	8	4338	6981	7	11.74	298.2
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.97	761.2	29.97	761.2	75.4	24.1	94	7	5	7	3	.....	.....	3	6	.....	4582	7374	6	6.07	154.2
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.80	756 9	29.98	761.5	74.5	23.6	93	1	8	1	4	3	1	1	10	2	2863	4608	6	3.93	99.8
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.80	756 9	29.99	761.7	73.2	22.9	91	5	1	.....	1	3	4	.....	8	9	2664	4287	4	1.04	26.4
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.94	760.5	29.96	761.0	77.6	25.3	92	1	.....	3	9	.....	1	5	7	5	3914	6298	5	4.25	107.9
West Gulf states.																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.77	756.1	29.97	761 2	74.3	23.5	88	5	1	1	4	13	1	3	2	1	.....	.....	4	0.92	23.4
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.51	749.5	29.96	761.0	69.7	20.9	91	1	.....	1	1	1	1	14	3	9	2582	4155	5	2.99	75.9
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.68	753.9	29.95	760.7	73.0	22 8	89	3	3	2	3	10	.....	4	5	1	3970	6389	4	1.95	49.5
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.97	761.2	29.97	761.2	81.1	27.3	83	2	2	3	5	10	3	1	5	.....	6255	10066	4	1.74	44.2
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.95	760.7	29.94	760.5	78.8	26.0	90	5	1	1	7	10	1	.....	1	5	7422	11944	3	0.67	17.0
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.46	748 3	29.97	761.2	74.0	23.3	92	1	.....	.....	6	12	4	3	5	.....	5629	9058	4	1.87	47.5
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.17	740 9	29.92	760.0	72.9	22.7	91	5	.....	.....	.....	3	8	1	4	10	3505	5641	3	0.95	24.1
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.91	759.7	29.92	760.0	76.2	24.6	96	.....	.....	1	2	8	3	.....	2	15	4556	7332	3	2.06	52.3
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.76	755.9	29.91	759.7	76.6	24.8	88	4	1	.....	.....	.....	16	4	3	3	5896	9489	2	0.97	37.3
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.21	741.9	29.99	761.7	70.9	21.6	93	2	4	3	11	2	2	1	2	4	3141	5055	5	4.06	103.1
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.02	737.1	30.00	762.0	69.0	20.6	90	3	.....	1	7	1	1	4	8	6	3231	5200	5	4.05	102.9
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.68	753.9	29.98	761.5	73.7	23.2	83	4	5	2	4	7	2	.....	6	1	4264	6862	2	1.70	43.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.43	747.5	29.97	761.2	71.5	21.9	84	4	3	7	9	.....	3	3	2	.....	3811	6133	5	1.02	25.9
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.42	747 3	29.97	761.2	69.8	21.0	84	10	2	.....	4	6	6	1	1	1	5218	8397	3	2.97	75.4
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.06	738.1	29.96	761.0	63.5	17.5	88	3	2	3	6	2	3	3	9	.....	3730	6003	4	7.24	183.9
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.19	741.4	29.96	761.0	63.0	17.2	88	4	6	.....	6	3	1	4	6	1	3704	5960	5	5.82	147.8
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.33	745.0	29.96	761.0	66.2	19.0	86	3	3	1	5	1	9	2	4	3	4621	7437	4	4.95	125.7
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.14	740.1	29.96	761.0	65.1	18.4	89	2	4	3	6	2	3	3	8	.....	4276	6801	5	5.90	149.9
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.18	741.2	29.96	761.0	65.1	18.4	84	2	5	3	4	6	1	3	2	5	3705	5962	6	5.64	143.3
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.32	744.7	29.96	761.0	60.3	15.7	90	3	2	5	7	3	3	2	1	5	5893	9484	7	2.20	55.9
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.24	742.7	29.96	761.0	61.6	16.4	90	5	3	5	3	4	2	4	5	.....	6242	10045	7	10.63	270.0
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.61	752.1	29.96	761.0	61.1	16.2	82	4	.....	5	3	7	7	2	3	....	6258	10071	6	2.37	60.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	29.95	760 7	63.6	17.6	80	2	4	3	4	10	4	1	3	.....	6361	10237	8	7.97	202.4
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.31	744 5	29.96	761.0	64.7	18.2	78	2	5	1	9	5	4	.....	5	.....	8387	13497	6	3.87	98.3
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.25	742.9	29.96	761.0	62.3	16.8	90	4	2	1	2	5	7	7	2	1	6067	9763	5	5.14	130.6
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.28	743.7	29.96	761.0	62.7	17.1	85	6	4	1	4	2	4	2	3	.....	5951	9577	5	5.05	128.3
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.30	744.2	29.97	761.2	62.9	17.2	88	6	5	1	2	6	2	4	5	.....	5066	8153	6	3.60	91 4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		RESULT OF SIMULTANEOUS OBSERVATIONS FOR AUGUST, 1885.																				Average Cloudiness.	TOTAL PRECIPITATION.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	WIND.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. STATES—Con.																												
Upper lake region.	° ′	° ′																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.31	744.5	29.95	760.7	55.3	12.9	90	1	3	12	4	3	4	1	2	1	6599	10620	6	7.18	182.4
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	187	29.29	744.0	29.93	760 2	56.1	13.4	83	13	2	4	4	3	3	.....	2	.....	6791	10929	6	5.25	133.3
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744.5	29.95	760.7	58.2	14.6	86	5	4	3	.....	6	4	4	1	4	6122	9852	6	4.82	122.4
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.31	744 5	29.95	760 7	56.8	13.8	86	3	4	5	7	4	5	1	2	.....	6259	10073	6	2.78	70.6
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.22	742 2	29.94	760.5	56.0	13.3	81	3	3	13	3	1	5	2	.....	1	6024	9694	7	2.47	62.7
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.30	744 2	29.96	761.0	58.7	14.8	86	3	0	2	3	6	1	4	6	.....	5699	9172	6	3.28	83.3
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.28	743.7	29.96	761.0	64.9	18.3	80	0	3	2	5	6	4	3	2	.....	6092	9804	6	11.28	286.5
Milwaukee	N. 43 02	W. 87 54	5.08 a.m.	697	212	29.24	742.7	29.96	761.0	59.6	15.3	87	6	3	5	4	2	6	4	1	.....	7792	12542	6	7.39	187.7
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.24	742.7	29.95	760.7	56.6	13.7	79	9	10	1	3	.....	1	1	3	3	5409	8705	5	2.51	63.7
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.10	739.1	29.96	761.0	59.0	15.0	88	2	6	1	5	6	4	.....	1	6	3683	5927	5	3.69	93.8
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.20	741.7	29.94	760.5	60.6	15.9	84	6	4	5	1	9	5	.....	1	.....	4867	7833	5	3.65	92.7
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.34	745.2	29.96	761.0	62.3	16.8	84	4	6	3	2	4	3	7	1	1	5233	8422	4	12.68	222.1
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.11	739.4	29.97	761.2	61.8	16.6	88	12	4	1	2	2	4	1	2	3	3374	5430	4	5.10	129.5
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.28	743.7	29.95	760.7	60.4	15.8	85	2	4	3	1	3	8	1	2	7	3030	4876	4	8.02	203.7
Keokuk	N. 40 22	W. 91 26	5.51 a.m.	618	188	29.33	745 0	29.95	760.7	63.8	17.7	87	5	3	2	5	4	3	5	2	2	5180	8336	4	5.93	151.9
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.63	752.6	29.98	761.5	70.8	21.6	84	7	2	3	6	8	1	1	3	.....	4884	7860	4	2.40	61.0
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.33	745.0	29.97	761.2	65.1	18.4	80	5	2	3	3	2	4	4	1	7	4557	7334	5	4.82	122.4
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.40	746.7	29.97	761.2	69.1	20.6	86	3	3	1	7	3	4	4	4	2	6010	9672	5	2.96	75.2
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	29.96	761.0	66.7	19.3	84	5	1	1	.....	4	9	3	2	6	4312	6939	4	5.20	132.1
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.86	733 0	29.98	761.5	63.8	17.7	88	10	5	1	2	5	6	2	.....	.....	5217	8396	5	4.53	115 1
Fort Bennett	N. 44 43	W.100 39	5.17 a.m.	1510	460	28.44	722 4	29.98	761.5	58.2	14.6	83	4	7	3	3	4	6	1	3	.....	5446	8765	5	5.87	149.1
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.63	727.2	29.97	761.2	56.8	13.8	90	4	6	1	.....	4	6	3	1	6	4980	8014	6	3.89	98.8
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28 71	729.2	29.97	761.2	59.4	15.2	91	4	8	6	2	2	4	1	3	1	4877	7849	5	6.21	157.7
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.94	735.1	29.97	761.2	66.5	19.2	89	3	2	.....	4	11	6	2	3	.....	6183	9950	4	7.04	178.8
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.00	736.6	29.97	761.2	50.5	10.3	94	6	6	2	3	7	4	2	1	.....	6601	10623	3	1.47	37.3
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.12	739.6	29.98	761.5	49.8	9.9	93	3	10	5	2	5	.....	3	1	2	4931	7936	5	0.95	24.1
Bismarck	N. 46 47	W.100 38	5.17 a.m.	1694	516	28.20	710.3	29.96	761.0	53.8	12.1	85	6	3	1	.....	2	3	3	6	7	4465	7186	5	1.62	41.1
Fort Buford	N. 48 00	W.103 56	5.04 a.m.	1930	588	27.99	710.9	29.98	761.5	53.2	11.8	87	2	9	1	1	3	3	5	5	2	5263	8470	6	1.50	38.1
Fort Totten.c	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.39	721.1	29.95	760.7	53.2	11.8	80	1	6	2	7	3	3	2	3	1	6447	10375	4	1.91	48.5
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W.109 42	4.41 a.m.	2720	829	27.21	691.1	29.98	761.5	54.3	12.4	75	5	2	8	4	4	3	3	1	1	6333	10192	4	1.45	36.8
Fort Benton	N. 47 50	W.110 40	4.37 a.m.	2681	817	27.29	693.2	30.08	764.0	52.6	11.4	75	.....	4	3	14	.....	.....	2	4	4	4415	7105	4	1.81	46.0
Fort Custer	N. 45 42	W.107 34	4.50 a.m.	3040	927	26.89	683 0	29.95	760.7	55.1	12.8	72	5	.....	3	1	.....	2	11	9	.....	4126	6640	4	1.60	40.6
Fort Maginnis	N. 47 12	W.109 10	4.43 a.m.	4340	1323	25.65	651.5	29.96	761.0	54.6	12.6	66	9	1	8	.....	3	4	3	3	.....	6385	10275	4	0.94	23.9
Fort Shaw	N. 47 31	W.111 48	4.33 a.m.	3550	1082	26.42	671.1	29.96	761.0	52.4	11.3	67	1	5	19	.....	.....	.....	4	1	1	3446	5546	5	1.35	34.3
Helena	N. 46 34	W.112 04	4.32 a.m.	4069	1240	25.90	657.8	29.94	760.5	54.0	12.2	76	2	2	1	23	.....	.....	.....	.....	3	3411	5489	3	0.48	12.2
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2030	619	27.92	709.2	30.01	762.2	50.8	10.4	89	4	2	5	1	1	3	4	4	1	3803	6120	4	0.42	10.7
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.47	646.9	29.91	759.7	54.1	12.3	80	.....	.....	1	9	1	3	4	13	.....	3217	5177	2	2.92	74.2
Cheyenne	N. 41 08	W.104 48	5.01 a.m.	6105	1861	24.13	612.9	29.84	757.9	52.5	11.4	75	6	15	2	1	4	2	.....	.....	1	6063	9757	4	2.14	54.4
North Platte	N. 41 08	W.100 45	5.17 a.m.	2841	866	27 12	688 8	29.90	759.4	60.7	15.9	92	3	5	2	.....	1	6	4	4	6	3506	8861	6	4.87	123.7
Middle slope.																												
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	(4134	4308	18.05	458.5	29.83	757.7	33.3	0.7	84	3	7	16	.....	1	.....	.....	4	.....	11441	18412	3	2.04	51.8
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.52	724.4	29.91	759.7	63.1	17.3	91	4	2	3	2	5	3	6	5	1	5089	8190	5	1.43	36.3
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.86	631.4	29.87	758.7	57.1	13.9	77	4	3	2	3	14	2	.....	.....	2	4519	7272	3	1.18	30.0
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899?	1188?	26.11	663.2	29.83	757.7	61.3	16.3	89	2	4	5	2	2	1	8	5	2	5109	8222	4	3.75	95.2
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.43	696 7	29.87	758.7	65.3	18.5	85	5	5	1	4	4	5	3	2	2	7873	12670	5	1.80	45.7
Fort Elliott	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.26	692.4	29.88	758.9	65.9	18.8	79	3	6	3	5	7	3	.....	1	3	6461	10398	4	4.94	125.5
Southern slope.																												
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.75	730 2	29.90	759 4	68.9	20.5	88	9	.....	.....	.....	6	1	1	5	9	6101	9819	4	5.72	145.3
Fort Concho	N. 31 25	W.100 24	5.18 a.m.	1900	579	28.10	713 7	29.92	760.0	71.4	21.9	83	.....	1	2	3	12	3	.....	6	4	6455	10388	4	1.91	48.5
Fort Stockton	N. 30 53	W.102 53	5.08 a.m.	3004	916	27.02	686 3	29.92	760.0	68.8	20.4	78	.....	.....	.....	...	2	18	.....	1	6	4585	7379	2	0.61	15.5
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25 24	641.1	29.85	758.2	64.9	18.3	72	3	4	7	10	.....	.....	1	1	5	3951	6374	4	3.34	84.8
Southern plateau.																												
Keeler	N. 36 35	W.117 50	4.09 a.m	3622?	1104?	26.28	667.5	.....	.....	72.0	22.2	51	6	.....	.....	.....	1	4	9	7	4	3841	6181	1	0.11	2.8
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	23.42	594.9	29.83	757.7	58.2	14.6	66	1	.....	.....	.....	2	8	10	8	2	4816	7750	4	0.98	24.9
Fort Thomas	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.23	691.6	29.82	757.4	69.1	20.6	60	.....	1	3	.....	5	.....	1	2	19	.....	.....	4	2.46	62.5
Fort Apache	N. 33 48	W.109 57	4.40 a.m.	5050	1539	25.11	637.8	29.81	757.2	59.6	15.3	81	1	.....	.....	.....	.....	7	14	7	2	4219	6790	4	3.16	80.3
Fort Grant	N. 32 39	W.109 57	4.40 a.m.	4856	1480	25.29	642.4	29.83	757.7	66.9	19.4	50	4	2	4	.....	1	14	.....	5	1	4995	8038	3	1.58	40.1
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.80	629.9	29.80	756.9	61.2	16.2	75	.....	.....	1	.....	7	1	1	.....	21	4012	6457	4	1.24	31.5
Yuma	N. 32 45	W.114 36	4.22 a.m.	141	43	29.65	753.1	29.76	755.9	81.3	27.4	82	.....	.....	.....	2	.....	13	1	4	11	4677	7527	4	0.86	21.8
El Paso	N. 31 47	W.106 30	4.54 a.m.	3704	1147	26.30	668.0	29.87	758.7	70.5	21.4	61	4	4	5	.....	.....	.....	7	4	7	3396	5465	3	0.46	11.7
Middle plateau.																												
Fort Bridger	N. 41 28	W.110 30	4.38 a.m.	6643?	2025?	23.64	600.4	.....	.....	48.2	9.0	74	1	.....	2	8	8	1	3	.....	8	3433	5525	3	1.46	37.1
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25.65	651.5	29.83	757.7	64.9	18.3	66	4	1	2	2	5	8	3	6	.....	3921	6309	4	0.90	22.9
Frisco	N. 38 25	W.113 16	4.27 a.m	6400	1950	23.80	604.5	.....	.....	63.8	17.7	50	3	6	5	12	3	.....	1	1	.....	7172	11542	2	3.96	100.6
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25.64	651.2	29.85	758.2	50.1	13.4	45	1	1	.....	7	2	2	4	11	3	4023	6474	1	0.04	1.0
Montrose	N. 38 30	W.107 50	4.48 a.m.	5825	1775	24.14	613.1	29.88	758.9	54.4	12.4	74	.....	.....	.....	.....	4	19	1	.....	1	5518	8880	3	2.23	56.6
Northern plateau.																												
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.16	689.9	29.91	759.7	59.0	15.0	64	1	8	.....	1	1	7	4	2	7	2464	3965	2	0.09	2.3
Lewiston	N. 46 28	W.117 05	4.12 a.m.	785	239	29.20	741.7	29.97	761.2	60.0	15.6	71	.....	2	.....	1	.....	5	.....	8	15	1044	1680	2	0.41	10.4
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	28.01	711.4	30.02	762.5	57.9	14.4	76	2	.....	.....	3	2	4	.....	3	17	2708	4358	1	0.16	4.1
Dayton	N. 46 19	W.117 56	4.08 a.m.	1683	513	28.25	717.5	29.97	761.2	57.6	14.2	59	1	1	.....	0	2	8	6	6	1	3244	5221	1	0.07	1.8
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W.124 04	3.44 a.m .	179	55	29.81	757.2	30.01	762.2	55.9	13.3	92	11	3	7	1	5	.....	1	2	1	4243	6828	4	0.12	3.0
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	29.99	761.7	30.03	762.7	51.8	11.0	92	2	.....	.....	1	5	5	2	1	15	1292	2079	2	0	0
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	30.00	762 0	30.02	762 5	49.4	9.7	94	.....	1	1	2	22	5	.....	.....	.....	3830	6164	1	0	0
Tatoosh Id	N. 48 23	W.124 44	3.41 a.m.	86	26	29.94	760.5	30.04	763.0	53.0	11.7	95	.....	1	.....	20	3	1	2	2	2	5658	9106	4	0.12	3.0
Portland	N. 45 32	W.122 43	3.49 a.m	80	24	29.92	760.0	30.01	762 2	50.4	13.6	87	2	3	.....	.....	2	3	.....	.....	21	2955	4657	2	0	0
Roseburg	N. 43 13	W.123 20	3.47 a.m.	523	159	29.46	748.3	30.01	762.2	53.7	12.1	87	1	1	1	.....	.....	.....	1	1	26	1822	2934	1	Inap.	Inap.
Mid. Pac. coast reg																												
Cape Mendocino	N. 40 26	W.124 24	3.42 a.m.	637	194	29.27	743.4	29.94	760 5	50.2	10.1	95	21	7	2	.....	.....	1	.....	.....	.....	19134	30792	2	0.82	20.8
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.51	749 5	29.84	757.9	69.6	20.9	45	12	10	.....	.....	4	.....	1	1	3	3190	5134	1	0	0
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	29.78	756.4	29.83	757.7	61.8	16.6	70	.....	.....	.....	.....	7	23	.....	.....	1	5164	8310	0	0	0
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	29.85	758.2	29.90	759.4	55.7	13.2	90	.....	.....	1	26	1	.....	.....	.....	3	8770	14114	0	Inap.	Inap.
N. Pac. coast reg'n.																												
San Luis Obispo	N. 35 18	W.120 39	3.57 a.m.	270	82	29.67	753.6	29.93	760.2	53.7	12.1	91	4	6	6	3	4	3	1	.....	4	3748	6032	4	Inap.	Inap.
Los Angeles	N. 34 03	W.118 15	4.07 a.m.	339	103	29.54	750 3	29.85	758.2	63.4	17.4	84	2	3	3	.....	.....	.....	1	1	21	3097	4984	4	Inap.	Inap.
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.82	757.4	29.86	754.8	67.5	19.7	84	5	12	4	4	1	1	.....	1	3	3840	6180	4	0.13	3.3
Alaska stations.																												
Ft. St. Michael's	N. 63 48	W.161 48	1.13 a.m.	30	9	29.77	756.1	29.85	758.2	48.6	9.2	89	1	1	4	3	10	5	4	2	1	10273	16532	8	4.56	115.8
Sitka	N. 57 03	W.135 19	2.59 a.m.	63	19	29.96	701.0	30.06	763.5	55.5	13.1	86	.....	2	5	12	1	5	.....	6	4196	6753	6	4.00	101.6
Unalashka	N 53 53	W.166 32	0.54 a.m.	13	4	29.88	758.9	29.92	760.0	48.5	9.2	89	.....	2	4	10	3	8	.....	1	3	6396	10293	7	3.34	84.8
Sub-Series.																												
Behring Islands	N. 55 12	E.165 55	11.04 p.m.	20	6	29.78	756.4	29.83	757.7	46.8	8.2	96	.....	2	2	1	14	1	6	4	1	8317	13385	7	0.69	17.5
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.86	758.4	29.91	759.7	76.1	24.5	92	4	12	.....	1	.....	.....	.....	14	.....	.....	.....	6	11.75	298.4
Cay Sal 1 ght H	N. 23 56	W. 80 28	6.38 a.m.	?	?	.....	.....	30.00	762.0	84.4	29.1	77	.....	1	.....	2	2	6	12	6	2	.....	.....	5	0.04	1.0
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.94	760.5	80.0	26.7	75	19	.....	.....	.....	.....	.....	1	.....	11	2417	3890	5	0.84	21.3
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.03	762.7	29.95	760.7	80.4	26.9	80	.....	.....	.....	.....	.....	.....	5	26	.....	.....	.....	3	3.01	76.4
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.9	25.5	78	.....	.....	.....	.....	.....	.....	6	25	.....	.....	.....	5	2.76	70.1

OCEAN SQUARE DATA FOR AUGUST, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° °															
N. 12.5 W. 22.5	29.83	757.7	80.1	26.7	7	4	1	.....	.....	.....	3	15	1	.....	4.1
12.5 27.5	29.90	759.4	81.4	27.4	11	6	2	.....	1	1	2	7	1	.....	3.7
12.5 32.5	29.94	760.5	82.2	27.9	4	.....	.....	.....	1	1	8	17	.....	.....	3.9
12.5 37.5	29.97	761.2	82.9	28.3	1	.....	.....	.....	.....	1	12	17	.....	.....	4.0
12.5 42.5	29.59	761.7	83.3	28.5	.....	.....	.....	.....	.....	1	17	12	1	.....	3.8
12.5 47.5	30.00	762.0	83.8	28.8	1	.....	.....	.....	.....	3	25	2	.....	.....	4.1
12.5 52.5	29.98	761.5	83.8	28.8	.....	.....	.....	.....	.....	12	18	1	.....	.....	4.0
17.5 22.5	29.88	758.9	79.2	26.2	4	.....	.....	.....	.....	.....	6	19	2	.....	4.0
17.5 27.5	29.93	760 2	80.3	26.8	.....	1	.....	.....	.....	.....	2	27	1	.....	4.1
17.5 32.5	29.99	761.7	81.2	27.3	.....	.....	.....	.....	.....	.....	5	26	.....	.....	4.1
17.5 37.5	30.02	762.5	81.8	27.7	.....	.....	.....	.....	.....	.....	13	18	.....	.....	4.1
17.5 42.5	30.05	763.3	82.5	28.1	.....	.....	.....	.....	.....	.....	25	6	.....	.....	4.2
17.5 47.5	30.05	763.3	83.5	28.6	.....	.....	.....	.....	1	3	27	.....	.....	.....	4.2
17.5 52.5	30.02	762.5	84.2	29.0	.....	.....	.....	.....	1	14	16	.....	.....	.....	4.2
17.5 57.5	29.99	761.7	84.6	29.2	.....	.....	.....	.....	.....	9	21	1	.....	.....	3.9
22.5 22.5	29.97	761.2	78.0	25.6	2	.....	.....	.....	.....	.....	9	19	1	.....	4.1
22.5 27.5	30.01	762.2	79.1	26.2	1	.....	.....	.....	.....	.....	10	20	.....	.....	4.0
22.5 32.5	30.05	763.3	80.0	26.7	1	.....	.....	.....	.....	.....	10	20	.....	.....	3.9
22.5 37.5	30.10	764.5	80.9	27.2	1	.....	.....	.....	.....	2	17	10	.....	1	4.1
22.5 42.5	30.12	765.0	81.7	27.6	2	.....	1	.....	.....	4	22	1	.....	1	4.2
22.5 47.5	30.11	764.8	82.4	28.0	.....	.....	1	.....	1	9	18	1	.....	1	4.0
22.5 52.5	30.09	764.3	83.3	28.5	.....	.....	.....	.....	3	12	16	.....	.....	.....	4.1
22.5 57.5	30.05	763.3	83.8	28.8	.....	.....	.....	.....	2	14	14	1	.....	.....	4.0
22.5 62.5	30.03	762.7	84.1	28.9	.....	.....	.....	2	3	10	14	2	.....	.....	3.6
22.5 67.5	30.03	762.7	83.7	28.7	1	.....	.....	.....	.....	13	14	2	1	.....	3.5
22.5 72.5	30.02	762.5	83.8	28.8	.....	.....	.....	.....	2	17	11	1	.....	.....	3.7
27.5 22.5	30.05	763.3	76.9	24.9	9	.....	.....	.....	.....	.....	8	14	.....	.....	3.8
27.5 27.5	30.10	764.5	77.9	25.5	4	1	.....	.....	.....	.....	7	19	.....	.....	4.2
27.5 32.5	30.14	765.5	78.9	26.1	3	2	.....	.....	.....	.....	13	11	.....	2	3.9
27.5 37.5	30.16	766.1	80.1	26.7	3	.....	2	1	1	1	10	5	.....	2	4.0
27.5 42.5	30.16	766.1	80.7	27.1	1	1	2	3	3	6	10	5	.....	.....	3.9
27.5 47.5	30.16	766.1	81.4	27.4	.....	1	1	3	4	9	11	1	.....	1	3.7
27.5 52.5	30.13	765.3	81.9	27.7	.....	1	.....	3	9	9	7	1	.....	1	3.9
27.5 57.5	30.10	764.5	82.4	28.0	.....	.....	.....	1	10	11	8	1	.....	.....	3.6
27.5 62.5	30.04	763.0	82.7	28.2	1	.....	1	5	7	12	3	.....	1	1	2.8
27.5 67.5	30.06	763.5	82.5	28.1	3	1	3	2	9	8	3	2	.....	.....	3.2
27.5 72.5	30.04	763.0	83.0	28.3	2	.....	1	5	10	5	4	3	1	.....	2.9
27.5 77.5	30.01	762.2	84.0	28.9	.....	.....	2	2	12	8	7	.....	.....	.....	2.4
32.5 12.5	30.02	762.5	75.0	23.9	18	1	3	1	.....	.....	.....	8	.....	.....	3.7
32.5 17.5	30.05	763.3	75.1	23.9	15	1	4	1	.....	.....	.....	9	1	.....	3.8
32.5 22.5	30.10	764.5	79.1	26.2	9	6	2	.....	.....	.....	5	8	1	.....	3.6
32.5 27.5	30.14	765.5	76.6	24.8	6	5	4	.....	1	3	3	9	.....	.....	3.6
32.5 32.5	30.17	766.3	77.5	25.3	3	3	7	2	1	.....	8	3	3	1	3.4
32.5 37.5	30.17	766.3	78.1	25.0	4	3	6	3	1	6	2	3	2	1	3.4
32.5 42.5	30.15	765.8	78.9	26.1	2	3	7	3	7	5	2	2	.....	.....	3.7
32.5 47.5	30.15	765.8	79.5	26.4	2	2	6	5	7	4	4	1	.....	.....	3.9
32.5 52.5	30.12	765.0	80.0	26.7	2	2	5	5	9	5	1	1	.....	1	4.1
32.5 57.5	30.08	764.0	80.3	26.8	1	2	1	11	6	7	1	1	.....	1	3.9
32.5 62.5	30.04	763.0	80.3	26.8	.....	1	5	11	5	2	6	1	.....	.....	3.3
32.5 67.5	30.02	762.5	80.5	26.9	1	6	7	3	5	6	1	2	.....	.....	3.5
32.5 72.5	30.01	762.2	80.6	27.0	1	1	7	6	7	4	1	4	.....	.....	3.5
32.5 77.5	29.98	761.5	79.9	26.6	3	3	5	6	2	1	5	4	1	1	3.5
37.5 12.5	30.02	762.5	72.6	22.6	13	9	6	1	1	.....	1	.....	.....	.....	3.0
37.5 17.5	30.06	763.5	73.0	22.8	8	1	12	1	.....	.....	1	8	.....	.....	4.0
37.5 22.5	30.10	764.5	74.0	23.3	5	3	11	3	.....	.....	4	3	2	.....	3.4
37.5 27.5	30.11	764.8	74.9	23.8	3	2	12	2	4	1	3	1	3	.....	3.2
37.5 32.5	30.10	764.5	74.7	23.7	1	6	11	5	2	2	2	1	1	.....	3.8
37.5 37.5	30.09	764.3	74.6	23.7	4	4	10	8	1	1	1	1	1	.....	3.9
37.5 42.5	30.08	764.0	74.8	23.8	2	8	8	6	3	.....	3	.....	.....	1	4.3
37.5 47.5	30.07	763.8	75.7	24.3	3	5	9	7	3	1	1	2	.....	.....	4.4
37.5 52.5	30.06	763.5	75.9	24.4	2	3	8	7	4	3	.....	3	.....	1	4.5
37.5 57.5	30.02	762.5	76.4	24.7	3	4	5	7	5	3	1	1	.....	2	4.7
37.5 62.5	30.00	762.0	76.4	24.7	7	1	4	6	8	3	1	1	.....	.....	4.5
37.5 67.5	29.99	761.7	75.5	24.2	4	5	5	4	5	1	3	3	1	.....	4.1
37.5 72.5	29.99	761.7	75.5	24.2	3	4	4	5	2	4	5	4	.....	.....	4.2
42.5 12.5	29.97	761.2	69.9	21.1	8	6	9	2	.....	.....	.....	5	1	.....	3.7
42.5 17.5	30.02	762.5	70.0	21.1	9	4	8	5	2	.....	.....	1	2	.....	4.1
42.5 22.5	30.03	762.7	71.2	21.8	2	4	9	7	3	3	3	.....	.....	.....	4.2
42.5 27.5	30.00	762.0	71.1	21.7	3	3	9	10	4	.....	.....	.....	1	1	4.2
42.5 32.5	29.98	761.5	70.5	21.4	2	7	8	9	2	.....	.....	.....	2	1	4.5
42.5 37.5	29.97	761.2	69.6	20.9	3	7	7	9	1	1	.....	2	1	.....	5.2
42.5 42.5	29.98	761.5	68.8	20.4	1	6	11	7	2	.....	1	1	1	1	4.4
42.5 47.5	29.98	761.5	67.2	19.6	5	4	10	5	5	1	.....	1	.....	.....	4.4
42.5 52.5	29.98	761.5	67.1	19.5	3	5	9	4	4	3	1	1	1	.....	4.1
42.5 57.5	29.98	761.5	69.2	20 7	4	6	5	4	2	1	5	2	1	1	4.3
42.5 62.5	29.98	761.5	68.2	20.1	3	5	4	5	5	3	5	1	.....	.....	3.9
42.5 67.5	29.99	761.7	64.9	18.3	9	5	.....	7	3	1	1	3	.....	2	3.6
47.5 12.5	29.96	761.0	65.8	18.8	4	2	3	2	6	7	1	6	.....	.....	4.6
47.5 17.5	29.96	761.0	65.6	18.7	4	4	3	5	6	4	.....	4	.....	1	5.3
47.5 22.5	29.97	761.2	65.9	18.8	.....	4	1	10	10	2	2	1	.....	1	4.3
47.5 27.5	29.88	758.9	66.0	18.9	1	3	6	10	7	.....	2	1	1	.....	4.0
47.5 32.5	29.85	758.2	65.5	18.6	8	4	3	8	4	1	.....	2	.....	1	5.3
47.5 37.5	29.85	758.2	63.5	17.5	6	7	7	4	4	1	.....	1	.....	1	4.7
47.5 42.5	29.85	758.2	59.8	15.4	7	6	4	5	4	2	.....	2	.....	1	4.6
47.5 47.5	29.89	759.2	56.3	13.5	5	5	6	6	4	1	1	2	1	.....	4.4
52.5 12.5	29.97	761.2	61.4	16.3	3	3	2	3	6	3	6	5	.....	.....	4.5
52.5 17.5	29.95	760.7	60.3	15 7	3	3	2	.....	8	7	4	4	.....	.....	4.6
52.5 22.5	29.91	759.7	60.3	15.7	.....	4	2	2	6	12	5	.....	.....	.....	4.7
52.5 27.5	29.86	758 4	59.8	15.4	2	1	2	4	5	10	2	5	.....	.....	5.1
52.5 32.5	29.85	758.2	58.9	14.9	.....	2	2	3	0	7	2	9	.....	.....	5.0
52.5 37.5	29.85	758.2	57.5	14.2	4	.....	3	1	5	8	5	5	.....	.....	4.5
52.5 42.5	29.85	758.2	54.5	12.5	1	2	1	5	6	4	.....	8	.....	.....	4.8
52.5 47.5	29.84	757.9	51.3	10.7	4	2	.....	5	8	2	.....	7	2	1	4.4
57.5 12.5	29.99	761.7	56.2	13.4	5	1	1	2	2	7	6	6	.....	1	4.3
57.5 17.5	29.99	761.7	55.9	13.3	4	2	2	3	2	12	2	3	1	.....	4.2
57.5 22.5	29.96	761.0	55.5	13.1	6	.....	1	.....	4	13	5	1	.....	1	4.4
57.5 27.5	29.93	760.2	54.9	12.7	3	1	.....	.....	3	14	5	4	.....	1	4.4
57.5 32.5	29.92	760.0	54.1	12.3	3	1	.....	1	4	10	6	5	1	.....	4.2
57.5 37.5	29.92	760.0	52.9	11.6	3	.....	1	2	2	9	6	5	1	2	4.2
57.5 42.5	29.90	759.4	51.5	10.8	1	1	2	1	4	11	5	4	1	1	3.9
57.5 47.5	29.87	758.7	49.1	9.5	1	.....	2	2	3	10	4	4	2	3	3.8

REVIEW.

INTERNATIONAL METEOROLOGY FOR AUGUST, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of August, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from one simultaneous observation taken each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure is located over British India, and embraces mean pressure ranging to 29.40 (746.7); a second area of low, encircled by the isobar of 29.80 (756.9), is charted in the southwest portion of the United States; while an area of low mean pressure, included within the isobar of 29.90 (759.4), appears, extending over the north Atlantic Ocean west of the twenty-fourth meridian and north of the forty-fifth parallel. The mean pressure for the month was below 29.80 (756.9) over the continent of Asia, except in Siberia, where it ranged above 29.90 (759.4). Off the west coast of Africa south of the tenth parallel the mean pressure ranged below 29.80 (756.9).

But one area of high mean pressure appears, covering an extended area over the Atlantic Ocean, central in about N. 30°, W. 40°, and exhibiting mean barometric maxima 30.17 (766.3). In the United States an elongated area of mean pressure, bounded by the isobar of 30.00 (762.0), extends from eastern New York southwestward into the eastern Gulf states. A second area, bounded by the isobar of 30.00 (762.0), extends east and southeast from Greenland, including the northern portion of the British Isles and northern Scandinavia. In British America west of the one hundred and second meridian the mean pressure was above 30.00 (762.0). In Canada the mean pressure ranged from 29.90 (759.4) to 29.97 (761.2). Over the north Atlantic Ocean the barometric gradient was moderate, ranging from 29.78 (756.4) to 30.17 (766.3). In Europe the mean pressure ranged from 29.80 (756.9) over the southeastern portion to slightly above 30.00 (762.0) over west and northwest portions.

Compared with the chart for the preceding month (July, 1885), an increase in pressure is shown over the northern portions of the United States from Idaho eastward to the Atlantic coast, while to the south of latitude 37° N. there has been a decrease in all districts. The increase is most marked from the upper lake region to Montana, where it ranges from .05 to .15. In the districts where a decrease is shown the deficiency ranges from .01 to .05, except along the Gulf coast and in the middle Pacific coast region, where it is somewhat greater. In Canada a slight increase in mean pressure is shown. Over the north Atlantic Ocean the mean pressure is higher over the northern portion and lower south of the fortieth parallel. In the British Isles the mean pressure for the month is lower than in July, ranging from 29.97 (761.2) over the southern portion to 30.03 (762.7) over the northern extremity. In Spain and France it is about .15 lower. In Germany it is about .10 lower. Over Scandinavia and northern Russia it is generally lower, while over southeastern Europe it is somewhat higher. Over British India it averages about .10 higher. Over the Japanese Islands the changes have been slight, a small increase being shown over the northern portion. Over the balance of Asia and over Behring Sea a decrease in pressure is noted.

Compared with the corresponding month of previous years the mean pressure over the United States was below the normal (from .05 to .08) in the Lake region, southern New England, middle Atlantic states, and in portions of the Ohio, Mississippi, and Arkansas valleys; a slight deficiency is also shown on the Pacific coast. The greatest departures above the normal occurred in New Mexico, .07, and Nevada, .06. In Canada the mean pressure was slightly below the normal at all stations except Halifax. In the British Isles the mean pressure averaged about .10 above the normal, except in Jersey, where there was a slight deficit. Over Spain, France, and Italy it was .04 to .05 below the normal. In Germany it was slightly above the average for the month, while over the balance of Europe the excess ranges from .05 in Russia to .15 in Norway. In India it was below the normal. Over Siberia it was slightly above the normal. Over the Japanese Islands it was somewhat below the normal.

The following table shows the mean pressure and mean temperature for August, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Aug. mean of 8 (1877-'84) years.	Aug., 1885.	Departure.	Aug. mean of 8 (1877-'84) years.	Aug., 1885.	Departure.
				°	°	°
Austro-Hungary	29.90	29.90	normal.	73.3	71.1	− 2.2
British Isles	29.88	29.98	+ 0.10	62.7	61.5	− 1.2
Chili		29.92			51.1	
Denmark	29.82	29.95	+ 0.13	63.0	55.5	− 7.5
France	29.97	29.93	− 0.04	73.6	73.2	− 0.4
Germany	29.92	29.93	+ 0.01	68.6	65.4	− 3.2
India	29.60	29.52	− 0.08	83.3	84.5	+ 1.2
Italy	29.93	29.89	− 0.04	81.4	82.0	+ 0.6
Japan		29.85			75.2	
Norway	29.78	29.93	+ 0.15	62.3	57.0	− 5.3
Russia	29.84	29.89	+ 0.05	71.1	67.4	− 3.7
Spain*	29.98	29.93	− 0.05	80.1	76.6	− 3.5
Sweden	29.79	30.90	+ 0.11	63.7	59.6	− 4.1

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Aug. mean of 8 (1877-'84) years.	Aug., 1885.	Departure.	Aug. mean of 8 (1877-'84) years.	Aug., 1885.	Departure.
				°	°	°
Astrakhan, Russia	29.85	29.80	− 0.05	82.1	80.4	− 1.7
Archangel, Russia	29.77	30.01	+ 0.24	61.6	62.1	+ 0.5
Athens, Greece	29.88	29.87	− 0.01	87.3	87.0	− 0.3
Beirut, Turkey in Asia				88.2	86.9	− 1.3
Barnaul, Siberia, Asia	29.75	29.76	+ 0.01	67.7	66.7	− 1.0
Bridgetown, Barbadoes	29.98	29.92	− 0.06	83.7	84.9	+ 1.2
Cape Town, Cape of Good Hope					61.1	
Ekaterinburg, Russia	29.76	29.80	+ 0.04	65.2	58.6	− 6.6
Fort Napier, Natal, South Africa	29.97	29.94	− 0.03	67.5	75.5	+ 8.0
Freetown, Sierra Leone	29.94	29.78	− 0.16	81.8	82.9	+ 1.1
Funchal, Madeira Islands	30.11	30.05	− 0.06	75.5	74.8	− 0.7
Gibraltar				79.4	75.4	− 4.0
Havana, Cuba, W. I.	30.00	29.96	− 0.04	80.2	77.3	− 2.9
Malta, Mediterranean Sea*	29.95	29.91	− 0.03	82.2	85.1	+ 2.9
Melbourne, New South Wales	30.05	29.96	− 0.16	50.0	50.8	+ 0.8
Mauritius, Indian Ocean	30.15	29.99	− 0.06	71.8	72.1	+ 0.3
Mexico, Mexico		30.08			55.0	
Nassau, Bahamas, W. I.	30.04	30.01	− 0.03	84.2	85.3	+ 1.1
Nikolaevsk on the Amoor, Asia		29.72			56.3	
Paramaribo, D. Guiana, S. A.	30.01	29.95	− 0.06	80.2	80.4	+ 0.2
Ponta Delgada, Azores	30.18	30.10	− 0.08	75.7	76.6	+ 0.9
Sandwick Manse, Orkneys	29.83	30.03	+ 0.20	56.2	52.9	− 3.3
San Juan de Puerto Rico, W. I.	30.01	29.98	− 0.03	81.6	82.0	+ 0.4
Stykkisholm, Iceland	29.82	30.09	+ 0.27	50.5	50.2	− 0.3
Tashkend, Toorkistan, Asia	29.70	29.57	− 0.13	85.5	93.6	+ 8.1
Thorshavn, Färöe Islands	29.82	30.05	+ 0.23	53.1	51.1	− 2.0
Tiflis, Russia	29.78	29.77	− 0.01	86.0	82.2	− 3.8
Yeniseisk, Siberia, Asia	29.83	29.86	+ 0.03	62.8	61.3	− 1.5
Zi-Ka-Wei, China	29.77	29.71	− 0.06	76.9	79.2	+ 2.3

* Means for seven years only.

In the United States the mean temperature for the month was decidedly below the normal throughout the northern part of the country to the eastward of Idaho; in the south Atlantic and Gulf states it was nearly normal; over the southwestern districts and portions of the Pacific coast regions it was above the normal. In Canada the mean temperature was below the normal at all stations (except Halifax, where it was normal), especially at those in Ontario, where the deficit ranged to five and one-half degrees. In the British Isles the mean temperature averaged slightly below the normal. Over the balance of Europe it was everywhere below the average for the month, except in Italy, where it was slightly above the normal. In

India the mean was slightly above the normal. In Japan the mean differed slightly from the average for August.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Tashkend, Turkestan, Asia	93.6	34.2	Minnedosa, Canada	45.2	7.3
Lahore, India	93.1	33.9	Behring's Island, Behring Sea	46.8	8.2
Trichinopoly, India	93.0	33.9	Hobart Town, Australia	46.9	8.3
Palermo, Sicily	90.3	32.4	Fort Bridger, Wyoming	48.2	9.0
Gozo, Mediterranean	87.5	30.8	Unalashka, Alaska	48.5	9.2
Rome, Italy	87.3	30.7	Fort Saint Michael's, Alaska	48.6	9.2

In the United States the prevailing winds were south or southwest along the Atlantic coast; in the lower lake region, Ohio Valley, and Gulf States they were variable; in the upper lake region, upper Mississippi and Missouri valleys they were mostly north or northwest; in the Rocky Mountain and Pacific coast regions they were variable. In Canada the prevailing winds were from southwest to northwest. In the British Isles the predominant direction was northerly at northern stations, northeasterly over the west portion, and northwesterly along the eastern coast. Over Scandinavia they were generally northerly; over the balance of Europe they were variable. Over British India they were variable. Over the Japanese Islands south to west winds prevailed in the northern portion, while over the southern half they were variable.

In the United States the precipitation during the month was unusually heavy over the country from Kansas and Nebraska eastward to New England, and on the coasts of South Carolina and Georgia. It was below the average in the extreme northwest and throughout the southern portions west of the Atlantic coast. In Canada the rainfall was above the average, except in Quebec, New Brunswick, and Prince Edward Island. In the British Isles the average precipitation was deficient, except over northern England and the south of Scotland, where there was an excess.

In the United States and Canada the most marked features of the month were the destructive storms which occurred on the 2d and 3d, and the early frosts in the Northwest which prevailed on the nights of the 24th, 25th, and 30th. Over the north Atlantic Ocean several storms of marked energy and destructive features occurred. In the British Isles the general character of the weather was fine. Over the balance of Europe the weather averaged fair, except in portions of Norway and Sweden. In India the weather was generally cloudy. In the Japanese Islands fair weather prevailed, except over eastern Yesso, where it was cloudy. Over Behring Sea and the Aleutian Islands the weather was fair, while on the west coast of Alaska it was cloudy.

TRACKS OF AREAS OF LOW PRESSURE FOR AUGUST, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during August, 1885. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of one simultaneous observation taken at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

Seven areas of low pressure are traced over the North American continent; the average number of depressions charted for August during the last twelve years being 10.2. That traced as number vi was a tropical hurricane and caused great damage on the Carolina coast. The most severe and destructive local storms of the month were those which occurred in the middle Atlantic states and New England on the 2d and 3d, during the prevalence of cyclonic area charted as number i. One depression, number iv, passed so far north through Canada that the track of its centre is somewhat doubtful. Severe storms occurred on the northern lakes during the 2d, 3d, and 4th.

Eight areas of low pressure are traced over the north Atlantic Ocean; the more important of these were numbers xi and xv; the first mentioned being a storm of much energy which apparently originated within the sub-tropical regions between latitude 25° and 30° N. Number xv was a continuation of the West Indian hurricane which moved with such disastrous results along the coast of the Carolinas from the 24th to 26th, inclusive. Of the remaining depressions, numbers x and xiii displayed considerable storm-energy; the others were generally of slight intensity.

These storms are described in detail in the MONTHLY WEATHER REVIEW for August, 1885, under the headings "Cyclonic areas" and "North Atlantic storms."

Six depressions are traced over Europe, but one, number xx, having a track south of the fiftieth parallel; two passed northeastward over the North Sea, and one, number xix, pursued an abnormal course. The month opened with an extensive area of high pressure overlying the ocean to the north and northwest of Europe. Three areas of low pressure appeared on the 1st, one being located over central Europe, one in the Bay of Biscay, and the third off the northeast coast of Spain. The depression first mentioned, number xvi, pursued an irregular generally north of east course through Russia and disappeared into Asia during the 7th. This storm exhibited fair energy on the 1st, but its subsequent course was not apparently characterized by violent disturbances.

Number xvii first appeared on the 6th off the southwest coast of England, with central pressure about 29.80 (756.9), from which position it moved northeastward over England and the North Sea and eastward into the Baltic Sea by the 9th, whence it passed southeastward through Prussia and Poland and disappeared in the direction of the Black Sea during the 10th; this storm possessed moderate strength and exhibited pressure about 29.60 (751.8) on the 9th. Ocean depression number x was central off the northwest coast of Ireland on the 9th, and possessed great energy, having central pressure ranging below 29.00 (736.6). Moving slowly northeastward this storm-area was central on the 10th off the northwest coast of Scotland, without appreciable changes in pressure; continuing a northeast course the storm is charted to N. 61°, W. 1° on the 11th, during which date it passed beyond the region of observation.

Number xviii is first charted over the ocean north of Ireland and passed northeastward over northern Scotland during the 12th; at noon (Greenwich mean time) of the 13th the depression was central on the coast of Norway, in N. 60°, from thence moving northeast and disappearing. This storm occasioned stormy weather over the North Sea during the 12th and 13th. Number xix was remarkable by reason of the great irregularity of its course. Apparently advancing from the northwest it entered Norway in N. 66° during the 16th, with pressure about 29.70 (754.4); passing southeastward into the Baltic Sea by the 18th, it circled west into Jutland by the 19th, and south into Germany by the 20th. On the 21st it was central in about N. 51°, E. 10°, whence it moved slowly northeast into the Baltic provinces by the 24th; describing a westerly circle through Finland during the next four days, it passed rapidly eastward and disappeared over central Russia during the 29th. While not particularly severe in its character this storm was accompanied throughout its course by general rains.

Number xx first appeared over northern Spain on the 28th and moved slowly northeast into France by the 29th, with central pressure below 29.40 (746.7); passing rapidly north of east, its track inclined to the southward and is charted in the direction of the Sea of Azof on the 31st. Number xxi is traced from eastern Russia northeast into Asia during the 30th and 31st; this depression exhibited pressure 29.45 (748.0) on the 30th, but the after conditions attending its course cannot be determined, owing to a scarcity of reports from the region through which it apparently passed.

Five depressions are charted on the eastern coast of Asia, over the Japanese Islands, and in Behring Sea, the most severe of which were numbers xxii and xxv, which are traced north-

westward to the Chinese coast. The presence of number xxii to the northeastward of Formosa was indicated by vessel reports of the 1st. These reports locate the centre of depression in about N. 27°, E. 125°, and show strong gales within an area of about five degrees. On the 2d the storm was central in N. 28°, E. 122°, with pressure about 29.30 (744.2) and fresh to strong gales; during this date the depression passed into the interior beyond the region of observation. Number xxiii first appeared on the 4th off the south coast of Hondo, with central pressure about 29.45 (748.0), strong gales and rain; during the night of the 4th and the day of the 5th the storm moved slightly eastward, with appreciable change in pressure, and during the night of the 5th it circled northward over Hondo and disappeared.

Number xxiv is traced from the Aleutian Islands northward along the west coast of Alaska, disappearing after the 5th. Number xxv is charted off the southern coast of China on the 24th, with pressure about 29.22 (742.2), strong gales and rain. The course of this storm prior and subsequent to this date cannot be determined, owing to an absence of reports. Number xxvi first appeared over Corea on the 28th, with pressure below 29.50 (749.3), whence it moved north of east over the Japan Sea into Yesso by the 29th; from which position it is given a probable northeast course to Behring's Island, in the vicinity of which the barometer continued low, with strong gales and rain during the 31st.

TRACKS OF AREAS OF LOW PRESSURE FOR JULY, 1883.

The chart for July, 1883, shows the paths of forty of the principal depressions that appeared over the northern hemisphere during the month. The data used in the preparation of this chart are obtained from the sources mentioned above (storm-tracks for August, 1885); the marine observations, however, are neither so numerous nor so complete as in that month.

The tracks of eight depressions are shown over North America. Four of these apparently developed in the Rocky Mountain region, and three passed so far to the northward in British America as to make location of the centres of disturbance only approximate. In no case has an area of low barometer been traced in the Southern States, and only one passed to the eastward south of New England. No depression has been traced from the Pacific coast eastward. The severest local storms of the month occurred on the 12th and 13th from Indiana westward to the eastern portions of Nebraska and Kansas, and on the 21st in Minnesota, Wisconsin, and Michigan. Violent electrical storms were of great frequency. The depressions are described in detail in the MONTHLY WEATHER REVIEW for July, 1883, under the heading "Areas of low barometer."

Seven depressions are traced over the north Atlantic Ocean, of which five were continuations of storms which first appeared over the North American continent; one is charted across the ocean from coast to coast. None of the depressions charted displayed special storm-energy, with the exception of number xii, which developed disturbances of pronounced severity, and exhibited barometric pressure 29.00 (736.6).

Thirteen depressions are traced over Europe and adjacent waters, the tracks predominating in the vicinity of the sixtieth parallel. One was a continuation of a depression traced over the north Atlantic Ocean; two first appeared in Spain and passed northward, and one apparently originated in the Black Sea and circled to the eastward.

From the 1st to the 8th, inclusive, an area of low pressure was located over the ocean to the westward of the British Isles. On the 8th a depression (number xix) of considerable strength, with pressure ranging to 29.54 (750.3), was central in the vicinity of Saint Petersburg, whence it moved eastward ten degrees by the 9th, with central pressure 29.22 (742.2); during the 10th and 11th it passed eastward and southeast into Asia. On the 10th a depression (number xx) appeared over Scandinavia, with pressure 29.47 (748.5), and passed eastward with an appreciable loss of energy during the next three days. On the 13th ocean depression xii had moved to the west coast of Norway and exhibted pressure 29.23 (742.4); continued as land depression number xxi, it moved north of east and disappeared over the White Sea during the 14th.

Number xxii apparently originated in southern France on the 14th, whence it moved northeast into Finland by the 17th, and disappeared in the direction of Kola Peninsula during that date. This depression had barometric pressure ranging below 29.40 (746.7) during the 16th and 17th. Number xxiii first appeared over northern Italy on the 15th and passed eastward into southern Russia by the 17th; thence passing north and northwest to Saint Petersburg by the 19th, where pressure below 29.00 (736.6) was shown; it then moved northwest into Finland and disappeared during the 20th.

Number xxiv first appeared in Spain on the 19th and moved northward through France and the North Sea to the west coast of Norway by the 23d, thence passing eastward into the Gulf of Finland by the 24th; from this position it circled northward and disappeared off the north coast of Norway on the 25th. This depression displayed considerable storm-force after passing into the North Sea, but apparently lost energy during the 25th. Number xxvi first appeared on the 24th over the North Sea and moved north of east into the Baltic provinces by the 26th, after which it circled to the westward and disappeared to the northward of the North Sea during the 30th. This storm exhibited fair energy and its remarkable course can only be attributed to an area of relatively high pressure over northern Russia by which it was deflected westward after the 26th. An area of low pressure (number xxviii) was central near Saint Petersburg on the 31st, with pressure ranging below 29.60 (751.8); during this date the pressure was also low over Austro-Hungary and the British Isles.

Twelve depressions are traced over Asia and adjacent waters, three of which are located over the eastern portion of Behring Sea and apparently passed northward along the west coast of Alaska into the Arctic Ocean; one is given a probable track in British India; one first appeared over the Philippine Islands and apparently moved northwestward over the China Sea; three are traced through the Yellow Sea; one through the Japan Sea, and one over the Japanese Islands.

An area of low pressure was central off Kamchatka and the ocean to the eastward from the 24th to 26th, inclusive. During the first five days of the month a storm of great energy was indicated in the Arabian Sea, although reports at hand will not permit of its being located or traced.

The barometer was generally low during the month off the eastern coast of Asia, and the depressions traced were neither well-defined nor possessed of marked individual strength. The storms which appeared over Behring Sea exhibited low barometric pressure, but a scarcity of reports from the region through which they passed renders it impossible to satisfactorily describe their characteristics.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◒ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit, the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

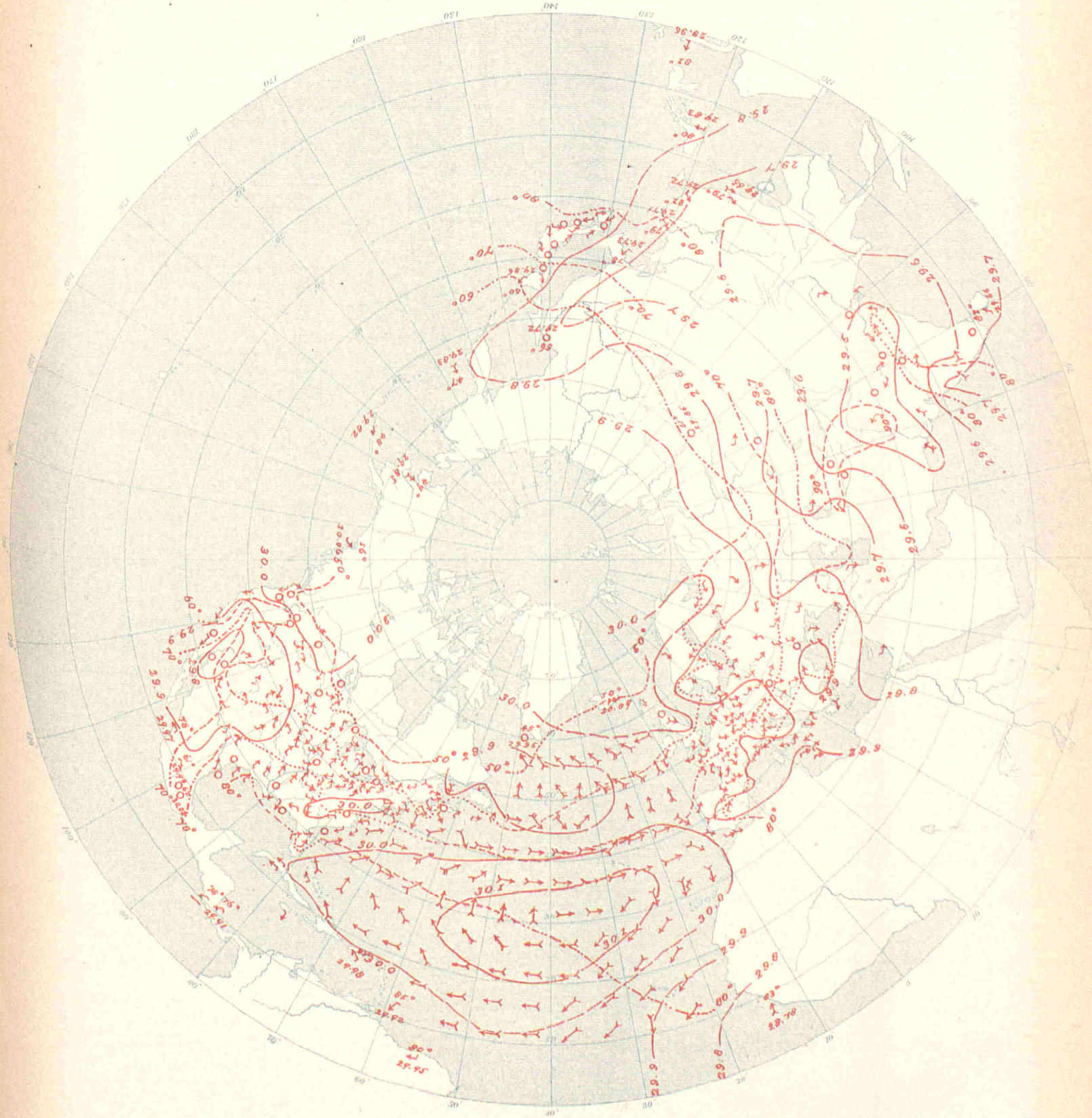
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. August, 1885. Isobars, Isotherms, and Winds.



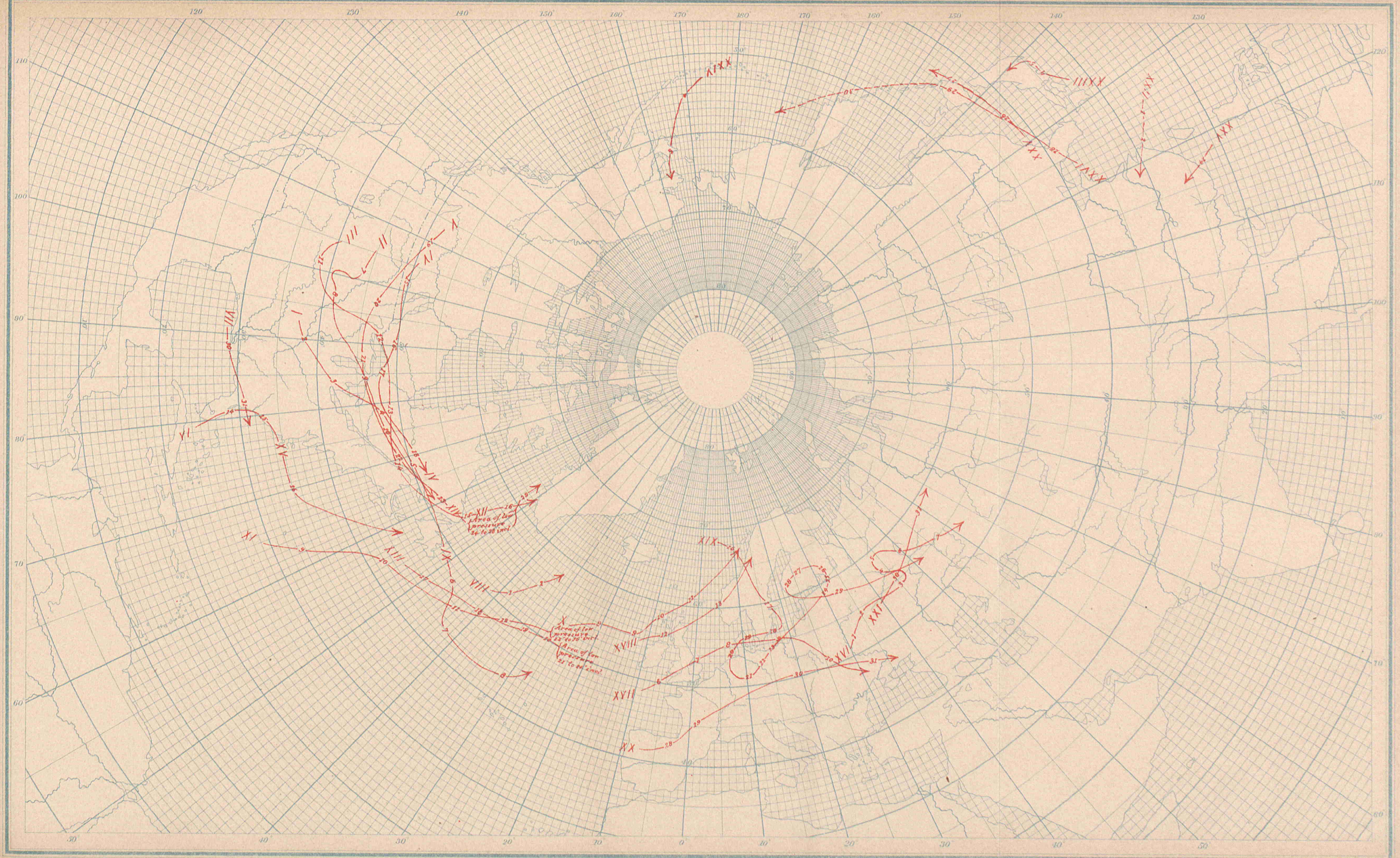
UNITED STATES OF AMERICA.

By Order of the Secretary of War.

W.B.Hazen, Chief Signal Officer.

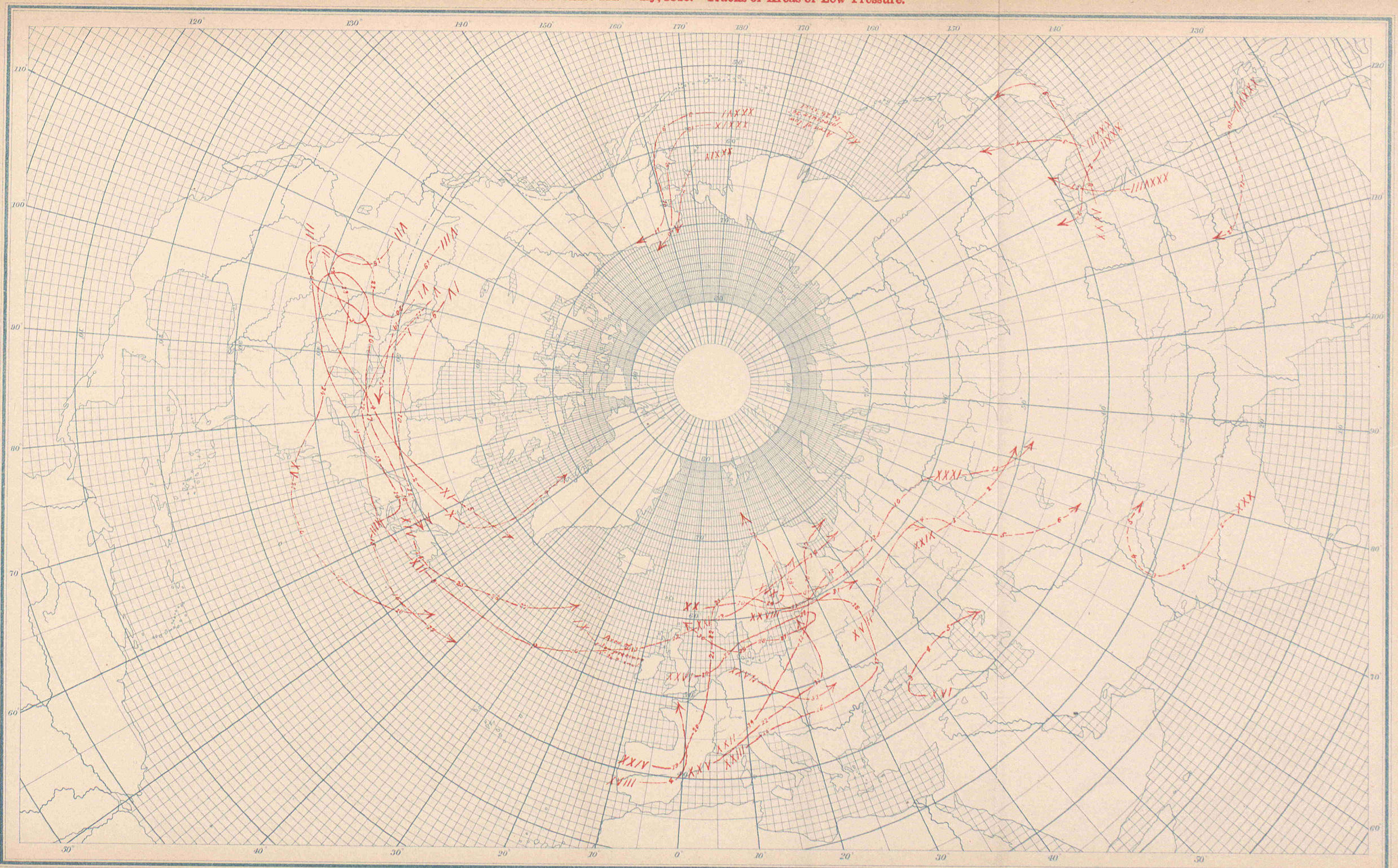
Signal Office Lith.

International Chart III. August, 1885. Tracks of Areas of Low Pressure.



Signal Office Lith.

International Chart III. July, 1883. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August, 1885—Continued.

	Name of vessel.	Captain.
	WILSON LINE.	
Br.	s. s. Chicago	Capt. J. W. Jones.
	Galileo	Richard Potter.
	Marengo	J. H. Mulet.
	Otranto	F. Kerr.
	Sorrento	J. T. Rogers, R.N.R.
	WINSOR LINE.	
Am.	s. s. Norman	H. W. Googins.
	Saxon	S. W. Snow.
	MISCELLANEOUS.	
Ger.	s. s. Brutus	J. A. Voege.
Br.	Dago	W. H. Bisset.
	Edith Godden	John H. Bennett.
	Glenochil	Robert Hay.
Am.	Lord Lansdowne	C. H. Baskfill.
Br.	Lorenzo D. Baker	W. F. Wiley.
	Menzaleh	J. B. McKie.
Fr.	Monte Rosa	W. T. Irving.
Br.	Neustria	P. Verriers.
	Pigua	William Clayton.
Ger.	Prydain	Moses Parry.
Br.	Rajatea	J. Viereck.
	Rydal Water	J. H. Jones.
	Strathleven	C. W. Pearson.
Span.	Valentia	Ch. Off. J. A. Estopiña.
	N. Y. HERALD WEATHER SERVICE.	
Am.	s. s. Acapulco	Capt. W. G. Shackford.
Br.	Adriatic	H. Parsell
	Advance	J. R. Beers.
	Ailsa	J. W. Sansom.
	Albano	H. R. Hughes.
	Alene	E. J. Selders.
	Alvo	D. Williams.
	Aurania	W. H. P. Hains.
Belg.	Baltic	R. E. Bence.
Br.	Belgenland	W. A. Beynon.
	Bothnia	Thos. Robers.
Am.	Britannic	H. Perry.
Br.	Caracas	W. M. Hopkins.
Am.	Celtic	Benj. Gleadell.
	Chalmette	Robert B. Quick.
Br.	City of Alexandria	J. W. Reynolds.
	City of Berlin	Francis S. Land.
	City of Chicago	Fred. Watkins.
	City of Chester	H. Condron.
Am.	City of Puebla	John Deakin.
Br.	City of Richmond	A. W. Lewis.
Am.	Claribel	W. M. McKnight.
	Colon	Chas. C. Lima.
Ger.	Crescent City	Jas. L. Lockwood.
Br.	Elder	H. Helmers.
Ger.	Elysia	James Brown.
Br.	Ems	Ch. Leist.
	Etruria	T. Cook.
Dan.	Gallia	M. Murphy.
Br.	Geiser	F. V. Schierbeck.
Ger.	Ivanhoe	John Cameron.
Belg.	Lessing	B. Voss.
Dtch.	Nederland	A. J. Griffin.
Belg.	P. Caland	T. H. Bonjer.
Br.	Pennland	R. Weyer.
Belg.	Republic	P. J. Irving.
Am.	Rhynland	J. C. Jamison.
	San Marcos	Ch. off. A. B. Connor.
	Saratoga	Capt. John McIntosh.
Dtch.	Schiedam	G. Bakker.
Br.	Servia	W. McMickan.
Fr.	St. Laurent	M. de Jousselin.
Br.	State of Georgia	G. Moodie.
	State of Pennsylvania	A. Mann.
Belg.	Switzerland	H. Buschmann.
Dtch.	W. A. Scholten	G. Bakker.
Belg.	Waesland	J. Ueberweg.
	Westernland	Com. W. G. Randle.
Br.	Wisconsin	Capt. Edw. Bentley.

	Name of vessel.	Captain.
	N. Y. HERALD WEATHER SERVICE—*Continued.*	
Br.	s. s. Wyoming	Capt. C. L. Rigby.
Dtch.	Zaandam	J. de Hamecourt.
	SAILING VESSELS.	
Am.	bg. Abbie Clifford	D. W. Storer.
	schr. Abbie H. Gheen	W. W. Gheen.
Br.	bk. Ada Peard	N. Hocken.
Ger.	sp. Agra	A. Högemann.
It.	bk. Agostino Romeo	Vincenzo Basso.
Am.	Albemarle	W. H. Forbes.
	Antonio Sala	F. H. Mitchell.
It.	Angola Schiaffino	Enrico Schiaffino.
Nor.	Artemis	E. E. Moe.
Am.	bg. Arcot	J. W. Cates.
Ger.	sp. Baltimore	N. Freese.
	bk. Betty	S. Wohlmuth.
Br.	sp. British Isles	G. Southcott.
	bk. British Princess	F. W. Peterson.
	sp. Caesarea	J. C. Barrette.
	Chas. S. Whitney	Geo. D. Spicer.
	bk. Childwall	T. O. Watson.
	sp. Cleomene	Henry Mays.
	bk. Corisande	Daniel Thoms.
It.	Creola	Egidio Gibelli.
Ger.	sp. Derby	B. Fortmann.
	Dora	H. Meyer.
	bg. Doctor Lasker	H. Buschenhenke.
Br.	E. J. Spicer	Dewis Spicer.
Am.	bkt. Emily Shopard	E. Coggins.
	schr. Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	Geo. J. Pearce.
Am.	schr. Florence Rogers	J. S. F. McLeod.
Dan.	bk. Galeon	H. H. Kalsboll.
Am.	Gamaliel	C. S. Powell.
Ger.	Godeffroy	C. H. Sinnig.
Am.	schr. Governor Hall	John Craig, jr.
Ger.	sp. Hedwig	Th. Minssen.
	bk. Heinrich & Tonio	L. Myer.
Br.	sp. Hermon	F. N. Marvin.
Am.	sp. Henry Villard	F. B. Perkins.
	bk. Idaho	W. S. Richardson.
Br.	Iodine	Adam Smith.
	sp. Iolanthe	Geo. Scott.
Ger.	Jacob	Adolph Linder.
Am.	schr. James H. Gordon	W. Lawrence.
	James Slater	James L. Tooker
Ger.	sp. J. W. Gildemeister	Arnold Lehmann.
	bk. Leocadia	John Stohff.
Am.	bkt. Levanter	A. S. Vesper.
	bg. L. & W. Armstrong	A. Alexander.
Br.	Lilian	H. F. Schive.
Nor.	bk. Lovspring	G. Thomsen.
Am.	sp. Lucy A. Nickels	W. Oatis.
	bg. Mary Fink	Daniel B. Darrah.
	sp. Mary L. Stone	G. L. Josselyn.
Am.	bk. Mohican	B. F. Berry.
	schr. Nelson Bartlett	Samuel Watts.
	bkt. Payson Tucker	Charles Brown.
Nor.	bk. Qvos	Gunder Olsen.
Am.	bgt. Raven	M. Nash.
	sp. Rembrandt	J. W. McGilvery.
Br.	bk. River Ganges	Thos. Naile.
Am.	Samuel B. Hale	A. S. Haven.
	sp. St. David	W. W. Frost.
	Sarah Doe	B. S. Merryman.
	schr. Sarah D. J. Rawson	Thos. D. French.
Br.	bk. Sodium	Alex. Wilson.
	schr. Stephen Bennett	William Douglas.
Br.	bk. Strathmuir	A. W. Flemming.
Am.	Templar	R. Roberts
	Tillie Baker	J. H. Carty.
Nor.	bk. Tros	Severin Brager.
Br.	Tuck Sing	A. J. Biddle.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	Western Chief	F. Sander.
Br.	Winifred	N. P. Dutton.
	sp. Winifred	R. McDonald.

Name of vessel.	Captain.
BRITISH NAVAL.	
H. M. S. Alexandra	Capt. Rawson, C. B.
H. M. S. Amethyst	Brent.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Agamemnon	Long.
H. M. S. Bacchante	A. W. Moore.
H. M. S. Cleopatra	H. N. Hippisley.
H. M. Dockyard, Bermuda	J. F. G. Grant.
H. M. S. Dart	A. M. Field.
H. M. S. Espeigle	C. A. G. Bridge.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Garnet	H. Hand.
H. M. S. Heroine	Blackburn.
H. M. S. Lark	T. F. Pullen
H. M. S. Orontes	C. B. Theobald.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson.
H. M. S. Rambler	Hon. F. C. P. Vereker
H. M. S. Sylvia	P. Aldrich.
H. M. S. Sappho	W. F. Castle.
H. M. S. Swiftsure	T. S. Brand.
H. M. S. Turquoise	R. Woodward.
H. M. S. Woodlark	W. R. Clatterbuck.
PORTUGUESE NAVAL.	
H. P. M. S. Temega	José d'Almeida d'Avila.
H. P. M. S. Estepharna	F. du Costa Cabral.
SWEDISH NAVAL.	
H. S. M. S. Vanadis	F. Bennet
H. S. M. S. Saga	A. Meister.
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlander	
Leeuwarden	
Prins Hendrick der Nederlander	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Constellation	C. L. Huntington.
U. S. S. Enterprise	A. S. Barker.
U. S. S. Galena	Jas. G. Green.
U. S. S. Hartford	E. P. Lull.
U. S. S. Independence	Fred Rodgers.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	G. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsly.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Wachusetts	A. T. Mahan.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C.M.G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I.R.Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W.I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Rev. C. Clouston, L. L. D.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall, C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Rafael Moreno.
Niebla	Federico Köhling.
Punta Caldera	Manuel Tobar.
Punta Corona	Juan E. Diaz.
Quiriquina	Jose Ignacias Campos.
Valparaiso	Julian Casho.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overlocrer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overlocrer Bergh.
Vestervig	Locrer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Ungerer, Director.
Avignon, Normal School	M. Giraud, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Bar-sur-Seine	M Saillard, Director.
Beauvais, Normal School	M. L. Jarach.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N.School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Valasade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delormie, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Chauvin, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Richard, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Versailles, Observatory	Dr. A. Berigny, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Yamazaki.
Hiroshima	Y. Okamoto.
Kanazawa	S. Endo.
Kagoshima	G. Miyanohara.

Stations.	Observers.
JAPANESE—*Continued.*	
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitaln & T Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	H. Yoshino and Tanno.
Numadzu	T. Ohgi
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjœsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
Saint Vincent, Cape Verd	
San Salvador, Congo	
Serra da Estrella	
ROUMANIAN.	
Bucharest	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolajevsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Telch, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W.I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF SEPTEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
NOVEMBER, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Manitoban	R. Carruthers.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Lord Gough	E. M. Hughes.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
City of Rome	R. D. Munro.
Columbia	R. F. Garvie.
Elysia	James Brown.
Ethiopia	John Wilson.
Italia	Thos. Craig.
Trinacria	Geo. Mitchell.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Albano	H. R. Hughes.
Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
CANADA SHIPPING Co.	
Br. s. s. Lake Nepigon	M. L. Trahmar.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
Europa	L. A. Kessal.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Neustria	P. Verriérs.
FURNESS LINE.	
Br. s. s. Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Canada	G. de Kersabiec.
Labrador	P. de Hauterive.
St. Germain	M. de Jousselin.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Off. W. H. Bates.
GUION LINE.	
Br. s. s. Abyssinia	Capt. J. Price, R. N. R.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	Capt. John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Dalton	J. Russell.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas. Clark.
Plato	John P. Bevis.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Colorado	Jas. Daniels.
Lampasas	M. B. Crowell.
Rio Grande	Jas. F. Lewis.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
Erin	John Robinson.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
Gottardo	G. Dilitherto.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. Donau	C. Pohle.
Elder	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	R. Ringk.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Nürnberg	A. Jaeger.
Salier	C. Wiegand.
Werra	R. Bussius.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
Nacoochee	Ch. Off. C. G. S. Burg.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	Capt. H. G. Morse.
Mariposa	H. M. Hayward.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.
Santa Rosa	Chas. B. Johnson.
PACIFIC MAIL STEAMSHIP Co.	
Br. s. s. Australia	Capt. C. C. Brough.
City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	J. M. Caverly.
San Blas	T. Chapman.
San Jose	A. D. Austin.
Zealandia	Henry Webber.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Bermuda	R. Fraser.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess.
Valencia	W. Woodrick.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sliorendregt.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	A. Potjer.
ROYAL MAIL STEAM PACKET Co.	
Br. s. s. Minho	Walter Chapman.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch. s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nevada	John A. Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Hekla	A. G. Thomsen.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S. & BRAZIL MAIL S. S. Co.	
Am. s. s. Advance	Jas. R. Beers.
Finance	Ch. Off. James Lord.
Merrimack	W. L. Beers.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
Norseman	E. Maddox.
Roman	D. Williams.
WHITE CROSS LINE.	
Dtch. s. s. De Ruyter	J. J. Brarens.
Belg. Jan Breydel	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Britannic	H. Perry
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Bassano	T. J. Moore.
Chicago	J. W. Jones.
Galileo	Richard Potter.
Otranto	F. Kerr.
WATTS, WARD LINE.	
Br. s. s. Richmond	Jacob Garson.
MISCELLANEOUS.	
Ger. s. s. Brutus	J. A. Vouge.
Br. Camden	S. R. Chandler.
Cranbrook	John W. Harvey.
Dago	W. H. Bisset.
Edith Godden	John H. Bennett.
Glenochil	Robert Hay.
Lord Lansdowne	C. H. Baskfill.

WAR DEPARTMENT.
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SUMMARY AND REVIEW

OF

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FOR THE MONTH OF SEPTEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
NOVEMBER, 1886.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, SEPTEMBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.														
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																									
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.00	762.0	30.13	765.3	55.0	12.8	68	1	1	2	5	4	4	3	4	6	6069	9767	5	1.63	41.4
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.72	754.9	29.91	759.7	47.9	8.8	89	7	4	5	8	5	.....	.....	.....	1	.....	.....	6	4.28	108.7
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.98	761.5	30.06	763 5	52.2	11.2	82	3	5	7	2	5	5	.....	3	.....	.....	.....	7	3.94	100.1
Austrian.																											
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.45	748.1	29.98	761.5	71.6	22.0	55	1	2	1	4	5	8	4	5	.....	.....	.....	3	2.06	52.3
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.19	741.4	29.95	760.7	65 3	18.5	66	5	3	6	12	2	.....	2	.....	.....	.....	.....	6	1.41	35.8
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.08	738.5	29.93	760.3	60.1	15.6	69	9	.....	.....	.....	15	.....	.....	1	5	.....	.....	6	0.82	20.8
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.73	729 7	29.95	760.6	65.8	18.8	67	.....	5	2	10	6	3	2	1	1	.....	.....	4	2.47	62.8
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.64	727.5	29.97	761.1	61.3	16.3	80	1	1	9	1	.....	.....	6	4	8	.....	.....	5	3.48	88.3
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.95	735.3	29.93	760.1	64.9	18.3	64	1	9	9	2	4	3	.....	2	.....	.....	.....	5	1.25	31.8
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.89	759.3	29.99	761.8	72.5	22.5	63	1	1	12	1	1	9	3	2	.....	.....	.....	5	2.04	51.7
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.48	748.9	29.96	760 9	69.8	21.0	57	6	7	6	2	9	.....	.....	.....	.....	.....	.....	3	2.23	56.7
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.69	754.2	29.96	760.9	72.5	22.5	52	2	7	6	3	8	1	.....	.....	.....	.....	.....	3	2.23	56.7
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.91	759.7	30.01	762.2	72.3	22.4	69	3	4	6	6	3	1	.....	4	3	.....	.....	4	1.14	29.0
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.26	743.2	29.97	761.3	65.7	18.7	61	4	2	11	.....	3	8	2	.....	.....	.....	.....	4	8.00	203.1
Brazilian.																											
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.91	759.7	30.10	764.5	72.0	22.2	75	5	9	3	.....	.....	4	2	2	5	.....	.....	8	45.2	114.9
British.																											
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.60	751.8	29.73	755.1	54.4	12.4	66	1	2	4	6	5	9	3	.....	.....	8433	13571	6	4.04	102.6
Bideton	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.83	757.7	57.7	14.3	67	1	4	10	6	5	2	2	.....	.....	.....	.....	6	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.28	743.7	29.83	757.7	55.3	12.9	74	3	6	1	9	8	2	1	.....	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.40	746.7	29.83	757.7	57.0	13.9	65	2	5	9	7	1	2	1	3	.....	.....	.....	4	2.85	72.4
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.92	760.0	29.88	758.9	84.5	29.2	71	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.77	756.1	29.97	761.2	60.5	15.8	53	.....	1	1	1	12	2	1	2	10	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.74	755 4	29.94	760.5	59.0	15.0	78	4	6	3	6	9	2	.....	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.72	704.1	29.94	760.5	71.1	21.7	48	3	.....	.....	1	7	6	10	3	.....	.....	.....	7	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.78	756.4	81.2	27.3	89	b5	3	2	.....	6	5	4	1	2	.....	.....	5	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.71	754.6	29.78	756.4	57.4	14.1	81	2	4	2	19	.....	2	1	.....	.....	.....	.....	3	.....	.....
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.04	763.0	30.07	763.8	70.7	21.5	93	.....	4	7	2	.....	.....	3	14	.....	.....	.....	7	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.72	754.9	29.91	759.7	61.4	16.3	89	6	3	4	10	5	1	1	.....	.....	.....	.....	4	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.67	753.6	29.98	761.5	60.0	15.6	83	2	3	9	8	4	2	1	1	.....	7160	11523	6	4.73	120.1
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.86	758.4	29.92	760.0	59.6	15.3	66	3	7	1	10	7	1	1	.....	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.59	751.6	29.85	758.2	60.2	15.7	65	3	3	1	18	.....	1	.....	4	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.97	761.2	30.02	762.5	78.2	25.7	64	.....	11	.....	4	.....	5	1	9	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.95	760.7	29.95	760.7	82.6	28.1	79	.....	.....	1	6	.....	14	9	.....	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.66	753.4	29.91	759.7	59.2	15.1	73	3	6	2	8	8	1	1	.....	1	.....	.....	7	.....	.....
Plymouth b	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.84	757.9	29.93	760.2	60.2	15.7	82	2	4	3	12	3	3	.....	.....	2	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.52	749 8	29.66	753.4	52.5	11.4	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.88	758.9	29.94	760 5	77.6	25.3	53	6	.....	.....	5	1	.....	.....	14	4	.....	.....	3	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.83	757 7	55.8	13.2	74	4	2	4	13	4	.....	2	1	.....	.....	.....	8	5.64	143.3
Valencia	N. 51 55	W. 10 18	11.19 a.m	23	7	29.82	757.4	29.86	758.4	58.0	14.4	82	3	3	7	5	9	1	.....	2	.....	.....	.....	8	.....	.....
Sub-series.																											
Gozo	N. 36 01	E. 14°16	0.57 p.m.	364	111	29.73	755.1	30.07	763.8	79.1	26.2	57	4	9	3	6	4	3	1	.....	.....	3833	6170	4	0.58	14.7
Canadian.																											
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.94	760.5	29.99	761.7	49.8	9.9	.....	2	1	2	11	4	2	5	.....	4	.....	.....	6	3.13	79.5
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.90	759.4	29.94	760.5	53.5	11.9	84	3	1	9	8	1	2	.....	2	4	4547	7318	6	1.75	44.4
Chathum	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.89	759.2	29.95	760.7	46.6	8.1	93	3	2	5	15	2	2	.....	1	.....	.....	.....	4	2.07	52.6
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.78	756 4	29.98	761.5	48.0	8.9	90	2	3	12	7	1	.....	5	.....	.....	.....	.....	5	3.82	97.0
Dalhousie b	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.87	758.7	29.93	760.2	48.4	9.1	.....	.....	1	18	.....	.....	.....	6	.....	4	.....	.....	8	4.34	110.2
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.88	758 9	29.92	760.0	45.9	7.7	86	1	4	9	6	2	1	.....	5	2	.....	.....	8	4.76	120.9
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.06	738.1	29.91	759.7	43.1	6.2	91	2	6	3	5	2	9	3	.....	.....	7830	12601	6	0.70	17.8
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.86	758.4	30.00	762.0	49.6	9.8	84	1	14	1	3	4	2	1	2	2	4025	6477	6	4.15	105.4
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.93	760 2	29.98	761 5	53.5	11.9	81	5	2	7	0	4	.....	1	2	3	8623	13877	3	3.00	76.2
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.96	735.6	30.07	763.8	50.5	10.3	97	1	2	3	1	3	1	1	17	2395	3854	4	2.65	67.3
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.87	758.7	30.00	762.0	52.1	11.2	88	4	5	11	3	4	.....	.....	4	.....	.....	.....	4	3.30	83.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.63	752.6	30.03	762.7	55.6	13 1	84	.....	1	1	23	1	.....	.....	.....	3	.....	.....	3	2.50	63.5
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.70	754.4	30.04	763.0	52.6	11.4	86	4	6	3	7	3	.....	.....	6	1	4523	7279	4	3.77	95.8
Little Grace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.910	759.70	29.956	760.70	658.1	614.5	070	b1	3	7	7	3	2	2	2	1	.....	.....	4	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.17	740.9	30.08	764.0	50.7	10.4	93	1	.....	.....	8	8	.....	.....	10	.....	.....	.....	66	.....	.....
Medicine Hat a	N. 50 01	W.110 37	4.38 a.m.	2136	651	27.57	700 3	29.84	757.9	47.0	8.3	81	1	2	.....	.....	2	.....	.....	27	1278	2057	5	2.70	68.6
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.03	711.9	29.91	759.7	39.0	3.9	89	1	5	5	1	.....	2	8	1	7	6950	11185	5	0.56	14.2
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.81	757 2	30.01	762.2	51.0	10.6	82	2	1	10	8	5	.....	.....	.....	.....	.....	.....	5	4.11	104.4
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.77	750 2	30.02	762.5	47.6	8.7	94	2	1	13	4	4	1	1	4	.....	3433	5525	5	3.18	80.8
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	191	29.33	745.0	30.03	762.7	48.5	9.2	93	7	.....	3	2	3	13	.....	2	.....	7090	11394	4	5.32	135.1
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	47.9	8.8	87	.....	2	1	3	.....	.....	3	.....	21	.....	.....	4	3.37	85.6
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.22	742.2	29.95	760.7	43.2	6.2	89	3	3	.....	5	.....	1	.....	2	16	2726	4387	4	1.66	42.2
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.37	746.0	30.05	763.3	54.5	12.5	97	.....	2	2	6	1	.....	.....	6	13	3625	5834	5	2.61	66.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.40	746.7	30.05	763 3	52.3	11.3	90	3	5	8	3	.....	2	3	6	.....	.....	.....	5	2.29	58.2
Qu' Appelle	N. 50 44	W.103 42	5.05 a.m.	2115	645	27.62	701.5	29.90	759.4	41.2	5.1	81	1	4	5	6	9	.....	1	.....	4	8495	13671	4	0.31	7.9
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.61	752.1	29.97	761 2	49.0	9.4	90	3	1	10	6	.....	.....	.....	4	8	.....	.....	6	4.24	107.7
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.55	750.6	30.01	762.2	44.7	7.1	89	.....	4	6	2	.....	.....	2	3	13	.....	.....	3	4.02	102.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.90	759.4	29.95	760.7	49.8	9.9	90	4	5	1	6	.....	1	1	1	11	.....	.....	3	2.47	62.7
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.87	758.7	30.00	762 0	50.5	10.3	89	3	5	3	1	12	1	.....	3	2	.....	.....	6	2.83	71.9
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.93	760.3	53.6	12.0	.....	.....	5	6	6	2	4	4	3	.....	.....	.....	.....	7.80	198.0
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.31	744 5	30.02	762.5	50.8	10.4	88	3	2	3	6	6	2	1	1	6	.....	.....	5	4.27	108.5
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.80	731.5	30.07	763.8	52.2	11.2	89	4	1	3	4	7	3	2	.....	6	2743	4414	5	2.54	64.5
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.90	759.4	29.96	761.0	54.4	12.4	83	2	1	2	11	7	.....	2	4	1	7378	11873	5	2.22	56.4
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.67	753.6	30.05	763.3	51.8	11.0	84	6	4	7	1	1	1	2	6	2	6425	10345	4	3.61	91.7
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.03	737.4	30.10	764 5	51.8	11.0	89	1	2	3	6	3	2	.....	4	9	.....	.....	4	2.93	74.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.94	760.5	30.04	763.0	52.7	11.5	91	2	3	2	5	4	1	1	3	9	.....	.....	2	1.31	33.3
Sub-series.																											
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.81	757.2	30.00	762.0	53.0	11.7	86	1	1	7	8	3	3	.....	7	.....	.....	.....	6	2.61	66.3
Cape Colony																											
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.13	765.3	30.13	765.3	62.7	17.1	91	.....	.....	11	3	2	4	5	3	2	.....	.....	3	1.54	39.1
Cape Town	N. 34 02	E. 18 29	1.14 p.m.	?	?	30.02	762.5	.....	.....	69.1	20.6	54	1	.....	2	.....	8	.....	.....	19	.....	.....	.....	2	1.66	40.6
Springbok a	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.88	682.7	.....	.....	75.5	24.2	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.52	38.6
Chilian.																											
Coquimbo	S. 29 56	W. 71 21	7.15 a.m	72	22	29.94	760.4	29.98	761.4	55.4	13.0	91	8	.....	1	5	1	9	2	4	.....	.....	.....	6	0.16	4.0
Iquique	S. 20 12	W. 70 11	7.19 a.m	26	8	29.98	761.4	29.95	760.6	61.9	16.6	68	4	1	.....	9	8	1	3	4	.....	.....	.....	8	0	0
Niebla	S 39 53	W. 73 25	7.06 a.m.	164	50	29.64	752.8	29.73	755.1	47.1	8.4	91	2	1	2	.....	.....	.....	.....	25	.....	.....	.....	6	7.39	187.6
Punta Caldera	S. 27 03	W. 70 53	7.16 a.m.	46	14	29.93	760.3	29.97	761.2	57.2	14.0	80	1	11	.....	6	.....	7	.....	5	.....	.....	.....	8	0	0
Punta Corona	S. 41 47	W. 73 53	7.04 a.m.	174	53	29.91	759.8	.....	.....	.....	.....	.....	4	4	2	3	2	8	3	4	.....	.....	.....	6	5.04	128.0
Quiriquina	S. 36 37	W. 73 03	7.08 a.m.	187	57	29.82	757 3	30.00	762.0	53.2	11.8	82	5	2	3	2	7	9	1	1	.....	.....	.....	8	3.61	91.8
Valparaiso	S. 33 03	W. 71 36	7.14 a.m.	135	41	29.90	759.5	30.01	762.3	55.8	13.2	84	8	.....	.....	3	.....	9	.....	2	8	.....	.....	.....	1.82	46.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
CHINESE.	° ′	° ′																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.75	755.6	29.81	757.2	78.0	25.6	84	1	.....	2	3	4	.....	11	4	5	.....	.....	6	5.84	148.3
Sub-Series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.90	759.5	29.88	759.0	69.8	21.0	91	9	2	2	.....	1	4	8	4	.....	.....	.....	6	5.61	142.6
DANISH.																												
Copenhagn	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.78	756.3	29.85	758.3	56.7	13.7	80	3	2	5	6	8	5	1	.....	.....	.....	.....	9	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.79	756.6	29.84	757.9	57.4	14.1	78	1	4	11	7	3	3	1	.....	.....	.....	.....	7	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.64	752.9	29.70	754.4	39.9	4.4	.....	7	.....	.....	4	2	3	.....	1	13	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.48	748.9	29.58	751.3	45.5	7.5	81	.....	1	1	1	2	3	7	10	5	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.49	749 1	29.56	750.7	49.6	9.8	81	3	2	1	6	3	4	5	3	3	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.68	753.9	29.81	757.1	55.8	13.2	76	.....	4	8	6	1	2	5	2	2	.....	.....	6	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.48	748.7	30.11	764.9	63.9	17.7	74	1	5	2	13	4	5	.....	.....	.....	.....	.....	.....	8.94	227.2
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.48	748.7	.....	.....	63.1	17.3	70	1	3	.....	13	4	2	.. ..	7	.....	.....	.....	.....	1.44	36.7
Arras	N 50 18	E. 2 46	0.11 p m.	223	68	29.71	754.6	29.94	760.4	62.8	17.1	70	.....	4	11	3	1	1	5	5	.....	.....	.....	7	2.06	52.4
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.96	761.0	30.04	763 0	73.4	23.0	61	14	3	.....	3	5	2	2	1	.....	.....	.....	1	4.29	109.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.46	748 2	30.01	762.3	63.5	17.5	71	.....	2	5	5	8	4	1	5	.....	.....	.....	6	3.10	78.8
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	29.62	752.4	29.95	760.7	64.6	18.1	76	5	4	3	18	.....	.....	.....	.....	.....	.....	.....	6	2.79	70.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.14	740 1	30.01	762.2	64.4	18.0	71	1	.....	.....	10	5	4	1	9	.....	.....	.....	.....	2.76	70.2
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.79	756.7	30.05	763.2	67.6	19.8	63	2	3	5	7	1	4	4	4	.....	.....	.....	5	2.89	73.4
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.44	747.8	29.99	761.7	67.6	19.8	66	3	3	9	9	4	.....	1	1	.....	.....	.....	5	4.86	123.4
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.77	756.2	30.02	762.4	64.4	18.0	78	1	1	4	11	4	.....	2	5	2	.....	.....	5	3.02	76.8
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.79	756.6	29.96	760.9	64.6	18.1	66	2	3	7	14	3	.....	1	.....	.....	.....	.....	6	3.14	79.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.64	752.9	29.97	761.3	64.6	18.1	72	1	2	6	7	12	2	.....	.....	.....	.....	.....	5	2.54	64.6
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.46	748.2	29.98	761.4	62.8	17.1	71	1	3	8	7	8	3	.....	.....	.....	.....	.....	5	3.25	82.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.69	728.6	30.01	762.2	67.3	19.6	55	7	4	3	5	5	3	1	2	.....	.....	.....	5	4.52	114.8
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.19	741.4	30.02	762.6	66.4	19.1	62	1	3	7	7	3	2	.....	6	1	.....	.....	6	4.92	125.1
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.18	741.2	30.04	763.0	61.0	16.1	88	1	5	13	6	.....	1	2	2	.....	.....	.....	5	5.15	130.7
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.50	698 5	29.99	761.7	66.4	19.1	52	4	.....	.....	.....	10	7	.....	1	8	.....	.....	3	5.83	148.0
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.91	734.3	30.00	762.0	61.0	16.1	51	1	.....	.....	.....	2	11	12	4	.....	.....	.....	3	2.26	57.4
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.32	744.7	30.06	763.6	66.4	19.1	56	3	13	6	.....	2	.....	2	1	3	.....	.....	.....	6.21	157.8
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.26	717.7	29.98	761.4	63.3	17.4	74	1	2	3	15	4	4	.....	1	.....	.....	.....	5	11.18	283.9
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.82	757.4	30.10	764.4	62.8	17.1	86	3	8	2	7	6	.....	.....	4	.....	.....	.....	4	3.44	87.3
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.42	747.2	30.05	763.2	71.8	22.1	.....	.....	.....	.....	19	3	2	4	1	1	.....	.....	5	4.86	123.4
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.91	759 8	30.03	762.7	65.1	18.4	83	5	3	2	11	5	3	.....	1	.....	.....	.....	7	3.94	100.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	29.00	736.5	30.03	762.8	66.2	19.0	55	11	1	2	2	6	5	3	.....	.....	.....	.....	6	3.79	96.2
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.57	751 1	30.01	762.3	64.8	18.2	69	1	2	15	4	1	2	.....	5	.....	.....	.....	.....	2.93	74.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.76	755.8	30.02	762.4	71.6	22.0	61	.....	6	12	6	2	2	2	.....	.....	.....	.....	.....	2.12	53.8
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.90	759.4	29.99	761.7	72.3	22.4	64	3	9	1	1	5	5	3	3	.....	.....	.....	.....	2.02	51.4
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.95	608.3	.....	.....	.....	.....	.....	2	9	3	2	7	7	.....	.....	.....	.....	.....	4	5.45	138.4
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.25	742 9	30.03	762.8	62.1	16.7	70	2	6	.....	18	1	2	.....	1	.....	.....	.....	.....	2.86	72.7
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.89	759 1	30.05	763.2	67.3	19.6	63	3	4	4	12	4	.....	2	1	.....	.....	.....	7	2.20	55.9
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.92	759.9	29.97	761.2	74.3	23.5	81	1	.....	4	.....	1	.....	11	.....	13	.....	.....	.....	0.54	13.8
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.95	760.6	30.06	763.4	71.6	22.0	55	5	12	.....	1	.....	5	6	1	.....	.....	.....	5	1.26	31.9
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.35	542.2	.....	.....	40.5	4.7	.....	.....	.....	3	5	11	.....	.....	.....	1	.....	.....	.....	5.31	134.8
Privas	N. 44 45	E. 4 36	0.18 p.m.	997	304	28 95	735.2	30.07	763.8	68.0	20.0	55	12	3	2	2	9	2	.....	.....	.....	.....	.....	.....	1.12	28.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.20	640.1	.....	.....	47.7	8.7	85	2	4	5	12	3	1	1	2	.....	.....	.....	6	7.32	186.0
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.00	762.1	30.04	762 9	66.7	19.3	76	.....	5	0	5	3	3	1	7	.....	.....	.....	5	3.26	82.7
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.75	755.6	30.02	762.5	69.6	20.9	58	1	4	5	11	2	4	.....	3	.....	.....	.....	5	1.81	46.0
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.98	710.7	30.09	764.2	60.8	16.0	80	12	9	.....	6	.....	1	.....	2	.....	.....	.....	5	4.59	116.5
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.91	759.7	29.97	761.2	64.9	18.3	69	2	4	5	6	8	2	1	2	.....	.....	.....	6	2.96	75.1
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.82	757.5	30.00	762.0	63.7	17.6	67	3	1	6	10	5	2	.....	3	.....	.....	.....	6	2.41	61.1
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.39	746.5	30.11	764.9	69.1	20.6	65	4	7	4	1	2	8	3	1	.....	.....	.....	6	2.42	61.4
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.84	758.0	30.02	762.5	67.3	19.6	63	2	3	5	6	8	3	1	2	.....	.....	.....	.....	2.40	61.0
Sub-Series.																												
St. Martin du Haux	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.94	760.4	30.09	764.2	68.5	20.3	66	5	.....	8	4	3	1	5	4	.....	.....	.....	5	4.67	118.7
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.55	725.2	29.98	761.6	61.7	16.5	63	2	.....	10	10	3	1	1	1	2	.....	.....	6	3.90	99.0
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.20	741.7	29.98	761.4	62.4	16.9	60	4	3	6	8	5	.....	3	.....	1	.....	.....	6	2.91	73.9
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.77	756.1	29.92	760 0	62.4	16.9	58	2	6	13	4	2	.....	1	.....	2	.....	.....	6	1.87	47.6
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.42	747.3	29.97	761.1	62.8	17.1	59	2	4	11	6	3	2	.....	1	1	.....	.....	7	3.15	79.9
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.54	750.4	30.01	762.3	63.3	17.4	71	2	.....	.....	21	1	.....	.....	4	2	.....	.....	6	5.76	146.2
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.20	741.6	29.93	760.2	61.3	16.3	68	4	4	2	3	16	1	.....	.....	.....	.....	.....	6	2.48	63.1
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.58	751.3	30.00	762.0	63.5	17.5	63	3	1	3	15	4	2	1	1	.....	.....	.....	7	2.16	54.8
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.61	726.0	30.02	762.4	61.2	16.2	77	1	1	3	19	3.	.....	.....	3	.....	.....	.....	5	6.98	177.3
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.80	757.0	29.91	759.8	58.5	14.7	76	1	1	6	14	3	2	2	1	.....	.....	.....	7	2.59	65.8
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.99	761.7	30.02	762 5	59.4	15.2	74	2	3	9	10	2	2	1	1	.....	.....	.....	8	2.42	61.4
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.52	749.8	29.95	760.6	63.3	17.4	63	.....	5	2	14	6	1	1	1	.....	.....	.....	7	2.41	61.1
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.72	754.8	29.92	760.0	63.7	17.6	63	.....	4	8	9	1	5	2	1	.....	.....	.....	7	1.24	31.4
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.82	757 4	29.89	759.2	58.1	14.5	74	4	7	8	3	2	2	2	2	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.18	715.8	30.06	763.4	63.5	17.5	57	.....	11	3	1	1	3	2	1	8	.....	.....	5	5.42	137.6
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.84	758.c	29.90	759.5	60.1	15.6	67	2	2	11	4	1	3	3	4	.....	.....	.....	8	3.22	81.9
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.44	747.8	29.99	761.8	63.7	17.6	67	1	3	9	6	2	4	1	2	2	.....	.....	6	3.47	88.1
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.10	739.2	29.96	761.0	64.8	18.2	61	.....	5	4	11	1	3	.....	5	1	.....	.....	6	3.27	83.0
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.84	758.0	29.89	759.2	58.6	14.8	78	1	5	5	11	1	4	.....	2	1	.....	.....	6	3.61	91.7
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.60	751.8	29.95	760.7	80.8	27.1	48	6	1	2	3	7	.....	1	10	.....	.....	.....	2	0.12	3.1
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.69	754.2	29.69	754 2	84.5	29.2	69	.....	.....	13	17	.....	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.27	743.4	29.67	753.7	92.9	33.8	40	2	1	9	16	.....	.....	2	.....	.....	.....	.....	1	0.28	7.1
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.78	756.3	29.75	755.7	82.6	28.1	77	1	15	12	2	.....	.....	.....	.....	.....	.....	.....	6	12.01	305.0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.95	710.0	29.73	755.2	78.1	25.6	71	1	1	1	19	3	.....	.....	3	2	.....	.....	9	8.07	205.0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.27	692.8	29.74	755.3	73.2	22.9	80	.....	1	1	4	21	1	1	.....	1	1	.....	8	5.10	129.5
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.96	735.4	29.61	752.0	92.3	33.5	42	3	1	5	2	1	1	2	.....	15	.....	.....	2	0.37	9.4
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.77	730.8	29.61	752 1	86 7	30.4	62	3	.....	12	.....	.....	.....	1	1	13	.....	.....	1	2.87	72.9
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.12	739.8	29.63	752.5	91.9	33.3	49	.....	3	24	2	.....	.....	.....	.....	1	.....	.....	1	0.16	4.1
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.69	728.7	29.65	753.2	85.4	29.7	59	4	5	.....	1	1	1	4	4	10	.....	.....	7	3.01	76.4
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.38	720.9	29.66	753 3	84.5	29.2	61	2	5	3	1	.....	.....	.....	4	15	.....	.....	4	0.76	19.3
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.34	745.1	29.66	753.3	86.1	30.1	65	9	8	3	2	1	.....	3	2	2	.....	.....	2	1.06	26.9
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.37	745.9	29.62	752 4	85.0	29.4	75	.....	8	4	4	.....	.....	.....	4	10	.....	.....	3	2.15	54.6
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.50	749.2	29.63	752.6	84.0	28.9	73	3	3	7	1	1	9	1	4	.....	.....	.....	7	8.85	224.8
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.70	703 7	29.64	752.9	78.4	25.8	77	5	8	1	.....	2	2	2	4	6	.....	.....	8	9.44	239.8
Cuttack.b	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.63	752.6	29.65	753.1	84.6	29.2	80	.....	3	5	8	9	1	1	1	.....	.....	.....	6	8.45	214.6
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.69	754.1	29.66	753.2	82.7	28.2	84	.....	2	5	10	9	2	1	.....	1	.....	.....	8	5.51	140.0
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.60	752.0	29.67	753.7	79.5	26.4	87	.....	.....	.....	.....	3	1	6	1	18	.....	.....	6	10.79	274.1
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.68	753.0	29.71	754.6	80.9	27.2	88	.....	1	4	7	11	3	.....	.....	4	.....	.....	7	19.15	486.4
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.43	747.5	29.72	754.8	79.9	26.6	90	1	.....	.....	5	2	3	1	17	1	.....	.....	8	23.66	600.9
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.30	718 9	29.66	753.4	90.9	32.7	39	2	14	6	1	.....	.....	2	5	.....	.....	.....	3	0.37	9.4
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28 26	717.9	29.63	752.6	86.7	30.4	52	1	5	12	4	1	5	1	1	.....	.....	.....	8	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.52	749 9	29.73	755 1	90.5	32.5	52	*f*	.....	.....	.....	.....	.....	.....	.....	24	.....	.....	8	5.22	132.6
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.54	750.2	29.93	760.3	71.2	21.8	66	.....	1	4	4	1	6	5	2	7	.....	.....	5	10.16	258.1
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.43	747.6	29.94	760.4	72.0	22.2	54	2	1	6	4	4	4	8	1	.....	.....	.....	5	4.71	119.7
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29 88	759.0	29.99	761.7	71.2	21.8	63	7	3	3	8	2	.....	1	5	1	.....	.....	4	4.65	118.1
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.07	738.3	29.96	760.9	70.3	21.3	62	.....	.....	11	3	5	4	3	4	.....	.....	.....	4	2.98	75.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Relative Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
ITALIAN—Con.	° ′	° ′																										
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.80	756.8	29.98	761.6	72.5	22.5	61	2	.....	.....	7	6	15	.....	.....	.....	.....	.....	3	6.48	164.5
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.96	760.9	30.00	762.1	72.0	22.2	67	.....	.....	1	7	.....	5	.....	17	.....	.....	.....	3	7.47	189.7
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.75	755.7	30.00	762.0	73.9	23.3	51	3	2	.....	2	1	9	10	3	.....	.....	.....	3	5.52	140.2
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.93	760.2	30.01	762.3	74.1	23.4	62	1	7	.....	1	2	2	15	2	.....	.....	.....	4	6.92	175.8
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.83	757 7	30.00	762.0	79.7	26 5	40	3	.....	1	1	5	6	12	2	.....	.....	.....	3	1.98	50.4
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.15	740.3	30.01	762.2	75.4	24.1	59	.....	.....	.....	5	.....	2	14	9	.....	.....	.....	3	5.44	138.2
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.79	756.7	30.03	762.8	81.0	27.2	50	.....	15	3	.....	.....	6	1	5	.....	.....	.....	3	1.54	39.1
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.97	761.2	30.01	762.3	82.4	28.0	66	5	6	4	4	1	5	3	2	.....	.....	.....	4	0.51	13.0
Sub-Series.																												
Naples	N. 40 52	E. 14 15	0.57 p.m.	489	149	29.50	749.2	.....	.....	75.4	24.1	62	2	3	9	3	1	6	4	2	.....	.....	.....	3	3.68	93.4
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.26	565.4	.....	.....	43.9	6.6	65	2	.....	17	7	.....	.....	1	3	.....	.....	.....	5	4.00	101.6
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.26	555.4	.....	.....	46.0	7.8	69	2	2	3	16	4	3	.....	.....	.....	.....	.....	6	3.12	79.3
JAPANESE.																												
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.88	758.9	29.90	759.4	66.8	19.3	84	1	3	4	1	.....	7	1	....	13	.....	.....	6	6.14	155.8
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.87	758.8	29.90	759.4	63.7	17.6	84	4	1	4	5	6	3	5	1	1	64490	67224	5	4.13	104.8
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.89	759.1	29.89	759.2	62.2	16.8	87	8	.....	4	.....	3	2	12	1	.....	8307	13368	6	7.89	200.3
Hamamtsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.84	757.9	29.91	759.7	71.1	21.8	84	.....	4	4	1	.....	1	10	5	5	.....	.....	5	3.67	93.2
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.89	759.1	29.87	758.7	73.0	22.8	79	17	2	1	1	4	.....	1	2	2	3903	6281	6	5.11	129.9
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.82	757.4	29.90	759 4	70.4	21.3	86	2	1	.....	.....	3	4	11	4	5	1839	2959	5	8.25	209.5
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.89	759.1	29.87	758 7	72.0	22.2	86	03	7	2	1	.....	1	3	3	7	3610	5809	5	8.38	212.8
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.76	755.9	29.90	759.4	71.3	21.9	82	11	5	.....	.....	.....	1	3	7	3	2050	3299	6	1.60	40.5
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.91	759 7	29.90	759.4	73.7	23.1	82	3	10	5	1	1	2	6	2	.....	4987	8011	6	11.01	279.7
Minsaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.89	759 2	29.89	759.2	72.6	22.6	89	6	.....	8	.....	4	2	8	2	.....	.....	.....	6	10.92	277.4
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.83	757.8	29.93	760 2	62.8	17.1	90	5	2	12	•5	1	.....	1	2	2	1638	2637	6	6.25	158.7
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.70	754.2	29.87	758.7	72.1	22.3	81	6	.....	1	3	3	3	1	5	8	3560	5729	5	4.63	117.4
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.87	758.7	29.92	760.0	55.5	13.0	94	3	.....	4	2	2	6	5	2	6	4470	7194	6	8.30	210.8
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.84	758.8	29.89	759 2	71.6	22.0	77	6	1	3	2	1	8	.....	2	7	4054	6527	6	4.26	107.9
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.90	759.4	29.90	759.4	71.1	21.7	82	2	1	1	1	4	2	10	9	.....	.....	.....	6	1.92	48.7
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.88	758.9	29.90	759.4	73.6	23.1	80	4	2	9	1	3	1	3	7	.....	5944	9566	5	2.59	65.9
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.91	759.6	29.90	759.4	71.4	21.9	83	8	2	3	.....	2	1	3	7	4	7885	12689	5	9.56	242.9
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.76	755.9	29.88	758.9	72.7	22.6	73	.....	.....	2	2	1	2	4	2	17	.....	.....	4	3.99	101.3
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.81	757.5	29.89	759.2	59.3	15.2	88	1	2	1	.....	3	14	.....	.....	9	5927	9538	6	0.99	177.7
Tokei	N. 35 41	E.139 46	9.19 p.m.	89	21	29.87	758.8	29.92	760 0	70 3	21.3	83	4	3	1	.....	8	2	9	2	1	5145	8281	7	2.84	71.9
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.86	758 5	29.88	758 9	73.9	23.3	80	7	1	.....	2	4	.....	3	4	9	2304	3708	5	4.25	107.9
MAURITIUS.																												
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.96	761.0	30.09	764.3	72.9	22.7	68	.....	1	.....	.....	2	4	22	1	.....	.....	.....	6	3.59	91.2
MEXICAN.																												
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.66	601.1	29.86	758 4	60.3	15.7	80	2	16	1	1	.....	.....	.....	9	.....	.....	.....	7	9.51	241.7
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.33	618.0	29.91	759.7	60.8	16.0	88	2	6	4	3	9	2	4	.....	.....	.....	.....	10	8.90	226.1
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.62	752 4	29.88	758.9	77.8	25.5	87	1	.....	.....	.....	.....	13	4	12	.....	.....	.....	7	10.56	268.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.07	585.9	30.05	763 3	56.7	13.7	84	4	3	4	1	.....	.....	.....	.....	18	.....	.....	8	5.24	133.0
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.40	594.3	30.01	762.0	63.4	17.5	63	.....	2	.....	1	.....	.....	1	2	24	.....	.....	6	11.06	280.8
NETHERLANDS.																												
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.92	760.0	29.94	760.5	62.2	16.8	.....	1	3	5	11	6	3	.....	1	.....	.....	.....	.....	2.97	75.4
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.80	756.9	29.87	758.8	58.5	14.7	.....	2	5	8	5	4	2	2	1	.....	.....	.....	.....	3.94	100.0
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.86	758 5	29.88	759.0	58.1	14.5	.....	.....	4	4	8	7	.....	3	4	.....	.....	.....	.....	3.87	98.2
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.89	759.3	29.91	759.8	60.4	15.8	.....	2	4	5	8	5	1	2	2	1	.....	.....	.....	3.40	86.4
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.86	758.4	29.93	760.1	61.7	16.5	.....	2	.....	7	10	6	3	2	.....	.....	.....	.....	4	?	?
Sub-Series.																												
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.79	756.7	81.3	27.4	71	4	.....	.....	.....	.....	.....	1	14	11	.....	.....	6	0.38	9.6
NORWEGIAN.																												
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.63	752.5	29.73	755.1	54.0	12.2	71	1	4	4	3	13	3	2	.....	.....	.....	.....	7	10.60	269.3
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.62	752.4	29.71	754.7	52.3	11.3	64	4	.....	1	4	4	10	3	.....	4	.....	.....	6	5.40	137.2
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.59	751.5	29.77	756.3	55.0	12.8	63	1	.....	1	16	4	2	3	3	.....	.....	.....	7	2.35	59.7
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.73	755.2	29.82	757.3	45.1	7.3	.....	2	.....	2	4	7	2	4	2	7	.....	.....	7	0.85	21.6
PORTUGUESE.																												
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.05	763.2	30.10	764.6	74.1	23.4	65	2	1	.....	16	4	3	.....	1	3	.....	.....	6	0.84	21.3
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.74	755.4	30.05	763 2	72.3	22.4	54	8	7	1	4	5	.....	2	3	.....	.....	.....	3	0.20	5.1
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.19	766.9	30.24	768.2	74.5	23.6	65	4	2	1	10	1	1	1	6	4	.....	.....	4	0.56	14.1
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28 08	713.2	29.82	757.5	81.0	27.2	54	.....	1	5	1	.....	.....	.....	.....	23	.....	.....	6	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.39	644.9	30.04	762.9	56.7	13.7	64	2	5	5	4	.....	1	11	2	.....	.....	.....	4	2.95	75.0
ROUMANIAN.																												
Bucarest	N. 44 25	E. 27 06	1.53 p.m.	366	112	29.68	753.8	30.06	763.5	74.7	23.7	51	1	3	6	9	2	3	4	2	.....	.....	.....	4	3.70	94.0
RUSSIAN.																												
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.77	730.7	29.82	757 4	61.2	16.2	44	2	3	8	2	3	2	2	3	2	.....	.....	5	0.76	19.4
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.80	756.8	29.87	758.7	46.8	8.2	74	1	2	6	1	1	4	6	6	3	.....	.....	8	1.09	27.8
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.05	763 3	29.98	761.5	70.9	21.6	47	4	4	7	2	5	5	2	1	.....	.....	.....	4	0.18	4.7
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.03	762.7	29.97	761.2	73.4	23.0	81	8	.....	.....	2	14	1	.....	1	4	.....	.....	3	0.11	2.7
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.44	747.8	29.95	760.7	56.5	13.6	55	2	4	6	6	2	.....	1	3	6	.....	.....	7	1.19	30.2
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.54	750.2	29.81	757.2	53.4	11.9	72	2	2	5	8	4	1	4	2	2	.....	.....	8	3.56	90.3
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.82	732.0	29.80	756.9	50.0	10.0	72	.....	5	8	4	4	3	4	2	.....	.....	.....	9	3.90	99.0
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.53	750 0	29.97	761.2	67.3	19.6	55	2	7	3	9	5	.....	2	2	.....	.....	.....	6	1.72	43.8
Kasanlisk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.71	754.7	29.89	759 2	74.3	23.5	41	.....	1	9	5	4	2	2	4	3	.....	.....	4	0.20	5.0
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.52	749.9	29.82	757.4	54.5	12.5	69	2	3	7	8	4	2	2	2	.....	.....	.....	9	1.21	30.8
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.78	756.4	29.88	758.9	46.9	8.3	72	.....	2	1	1	2	3	6	13	2	.....	.....	8	1.04	26.4
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.99	761.7	30.01	762.2	70.5	21.4	62	2	7	3	.....	2	10	.....	4	2	.....	.....	4	0	0
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.31	744 4	29.92	760.0	64.9	18.3	71	2	6	6	9	5	.....	1	1	.....	.....	.....	3	0	0
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.30	744.1	29.81	757.2	59.4	15.2	71	2	2	6	9	5	.....	1	1	.....	.....	.....	6	1.93	49.0
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.34	745 1	29.93	760.2	61.7	16.5	67	1	5	7	9	3	3	2	.....	.....	.....	.....	7	3.21	81.5
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.80	757.0	29.86	758.4	56.7	13.7	71	2	3	5	9	4	4	1	1	1	.....	.....	6	3.26	82.7
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.78	756.4	29.99	761 7	69.6	20.9	50	5	3	8	4	3	2	3	2	.....	.....	.....	6	2.38	60.4
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.30	744.2	29.80	756.9	53.6	12.0	79	2	6	7	4	3	5	1	2	.....	.....	.....	5	1.08	27.3
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.92	760.0	29.99	761.7	68.7	20.4	64	7	1	5	4	4	0	2	3	2	.....	.....	8	8.01	203.5
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	59	18	29.82	757.5	29.93	760.2	46.8	8.2	84	2	5	2	4	9	.....	.....	1	7	.....	.....	4	2.08	52.7
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.41	746.9	29.89	759.2	49.5	9.7	69	.....	5	.....	.....	2	1	19	.....	.....	.....	.....	4	2.78	70.6
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.65	753.1	29.97	761.2	79.2	26.2	29	4	1	2	4	1	7	1	8	2	.....	.....	9	2.23	56.6
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.57	751.0	29.80	756.9	48.9	9.4	76	.....	2	4	4	.....	2	5	7	6	.....	.....	9	0.23	5.9
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.39	746.6	29.90	759.4	62.6	17.0	67	4	6	1	1	2	9	4	3	.....	.....	.....	8	3.34	84.8
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	29.94	760.5	29.96	761 0	75.2	24.0	70	2	7	9	3	3	3	1	.....	2	.....	.....	8	2.97	75.5
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.74	755.3	29.80	756.9	51.6	10.9	75	.....	6	1	17	.....	.....	4	.....	2	.....	.....	8	5.77	146.6
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.53	699.3	29.90	759.4	73.6	23.1	49	1	5	7	2	3	2	4	6	.....	.....	.....	9	3.83	97.3
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.28	743.6	29.93	760.2	61.2	16.2	50	2	1	1	.....	1	1	2	.....	21	.....	.....	7	0	0
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.76	756.0	29.97	761.2	73.0	22.8	56	6	2	4	3	.....	.....	2	1	12	.....	.....	6	1.06	27.0
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.28	743.6	29.84	757.9	61.5	16.4	65	6	5	7	3	7	1	.....	.....	.....	.....	.....	3	0.35	9.0
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.30	718.7	29.86	758.4	81.9	27.7	38	1	1	6	5	5	4	4	4	.....	.....	.....	8	1.73	44.0
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.58	726 0	29.93	760.2	78.6	25.9	37	.....	9	5	.....	.....	.....	.....	16	.....	.....	.....	1	.....	.....
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.48	748.9	29.92	76 .0	61.9	16.6	67	2	8	.....	.....	8	10	1	.....	1	.....	.....	4	1.30	33.0
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.75	755.6	30.07	763 8	50.2	10.1	74	2	9	7	7	1	1	.....	2	1	.....	.....	7	2.63	66.8
Sub-Series.													1	1	1	2	.....	.....	9	.....	16	.....	.....	7	2.72	69.0
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.18	741.2	29.74	755.4	53.5	12.0	75	3	5	7	3	4	3	3	2	.....	.....	.....	8	6.65	168.9
SPANISH.																												
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.90	759.5	30.06	763 5	72.9	22.7	66	.....	1	1	4	8	7	7	2	.....	.....	.....	5	3.54	89.9
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.01	762.3	30.07	763.8	72.5	22.5	66	2	12	2	1	3	6	2	.....	2	1233	1984	6	4.99	126.7
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.16	689.9	30.05	763.2	65.5	18.6	70	1	.....	3	6	8	.....	1	11	.....	4688	7544	4	1.15	29.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1885.						Mean Rel. Humidity.	Wind.										Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.			Directions.								Total Movement.				
				Feet.	Metr's	Actual.		Reduced.					N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
						Inch.	Mill.	Inch.	Mill.	Fah.	Cent.															
Spanish—Con.	° ′	° ′																								
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.87	707.9	30.01	762.3	74.1	23.4	45	1	.....	3	7	1	6	4	2	6	6759	16881	4	0.99	25.2
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.16	740.7	30.06	763.5	68.7	20.4	67	1	.....	2	8	3	.....	.....	9	7	6018	9685	7	4.76	120.8
Sub-Series.																										
Havana	N. 23 08	W. 82 23	6.30 a.m.	62	19	29.91	759.7	29.93	760.2	76.1	24.5	89	1	...	.....	.....	5	12	12	.....	.....	.....	.....	4	6.03	153.1
Manila	N. 14 35	E. 120 57	8.04 p.m.	52	16	29.86	758.4	29.85	758.2	81.6	27.6	80	....	1	4	9	.....	6	9	1	.....	4411	8170	4	2.00	50.8
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.95	760.7	30.03	762.7	77.4	25.2	58	.....	.....	12	1	2	.....	10	.....	5	.....	.....	.....	0.30	7.6
San Juan de Porto Rico	N. 18 30	W. 66 10	7.35 a.m.	82	25	29.88	758.9	29.95	760.6	80.4	26.9	83	.....	...	...	4	7	9	6	2	2	.....	.....	3	7.38	187.4
Swedish.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29 76	755 9	29.85	758.2	48.7	9.3	66	7	...	2	.....	7	3	2	1	8	.....	.....	6	0.95	24.2
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.74	755.5	29.84	758.0	50.4	10.2	68	3	4	2	6	5	1	3	5	1	.....	.....	6	2.27	57.7
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.70	754 3	29.79	756.7	51.6	10.9	72	1	2	2	1	5	4	6	4	5	.....	.....	7	2.87	72.8
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.58	751.2	29.79	756 6	54.5	12.5	66	3	.....	5	1	4	2	4	3	8	.....	.....	6	2.12	53.9
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.72	754.8	29.81	757.1	55.2	12.9	76	3	2	10	6	.....	2	4	3	.....	.....	.....	5	1.88	47.7
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.65	753 2	29.70	754.4	54.1	12.3	69	5	2	3	5	4	1	7	3	.....	.....	.....	7	2.31	58.6
Turkish.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.00	761.9	73.0	22 8	59	5	4	.....	3	6	1	.....	11	.....	.....	.....	3	1.86	47.2
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.187	766.67	79 7	26.5	.....	.....	9	5	14	2	.....	.....	.....	.	.....	.....	2	3.46	88.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.83	757.6	84.0	28.9	56	10	2	7	8	.....	.....	.....	3	.....	.....	.....	2	0.70	17.9
United States.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.91	759.7	29.98	761.5	52.3	11.3	86	4	3	1	9	7	.....	.....	2	4	5023	8100	3	3.64	92.5
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.91	759.7	30.01	762 2	53.8	12.1	80	5	7	8	3	3	1	1	2	.....	5221	8402	3	1.37	34.8
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.80	604.5	29.95	760.7	35.3	1.8	87	3	6	15	4	.....	.....	.....	2	.....	21265	34222	5	5.56	141.2
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.91	759.7	30.04	763.0	55.7	13.2	77	7	5	13	2	1	.....	1	1	.....	6977	11228	3	1.70	43.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.04	763.0	30.06	763 5	59.8	15.4	83	7	4	1	7	1	3	.....	7	.....	8819	14193	4	1.60	40.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.04	763.0	30.08	764 0	57.5	14.2	82	10	10	.....	3	1	.....	.....	2	4	4056	6527	3	1.44	36.6
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.96	761.0	30.06	763.5	55.4	13.0	85	9	2	4	4	.....	.....	.....	5	6	4292	6907	4	0.77	19.6
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.00	762.0	30.08	764.0	53.8	12.1	85	6	4	2	9	3	1	.....	1	4	3945	6349	4	2.00	50.8
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.92	760.0	30.08	764.0	59.9	15.5	78	3	6	1	4	2	1	1	2	10	4127	6642	3	0.72	18.3
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.98	761.5	30.09	764.3	60.0	15.6	78	.....	10	4	4	3	1	.....	7	1	6128a	9862a	4	1.17	29.7
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.07	763.8	30.09	764.3	60.9	16.1	88	3	6	7	5	1	.....	2	4	2	9569	15400	4	0.58	14 7
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.07	763 8	30.07	763.8	61.8	16.6	84	5	3	1	9	2	1	1	7	1	5781	9303	4	1.59	40.4
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.07	763.8	30.08	764.0	62.8	17.1	85	8	4	6	3	.....	1	3	3	2	8304	13364	4	1.38	35.1
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.05	763.3	30.06	763.5	63.9	17.7	80	3	7	.....	7	1	2	2	7	1	9243	14875	4	0.81	20.6
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.06	763 5	30.09	764.3	61.6	16.4	74	12	5	1	3	1	1	.....	4	3	3331	5682	5	1.30	33.0
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.02	762.5	30.12	765.0	59.5	15.3	83	3	3	2	2	2	2	1	4	11	2924	4701	5	2.15	54.6
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.08	764.0	30.07	763.8	65.3	18.5	81	4	5	.....	2	3	1	7	6	2	5721	9207	3	3.13	79.5
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.08	764.0	30.08	764.0	66.7	19.3	82	5	1	.....	8	2	1	1	12	.....	9326	15008	4	2.33	59.2
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.43	747.5	30.09	764.3	60.4	15.8	85	1	1	3	4	4	1	2	4	10	2041	3285	5	1.38	35.1
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.06	763.5	30.07	763.8	66.2	19.0	83	3	1	2	3	4	2	2	12	1	4830	7773	5	3.31	84.1
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.08	764 0	30.07	763.8	68.8	20.4	86	2	4	1	3	.....	1	2	15	2	8947	14399	5	4.62	117.3
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.06	763.5	30.05	763.3	71.2	21.8	86	7	....	4	3	.....	1	1	14	.....	7266	11693	4	7.27	184.7
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.07	763 8	30.05	763.3	71.0	21.7	91	3	3	2	3	1	.....	1	17	.....	10212	16434	5	6.31	160.3
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.02	762.5	30.03	762.7	71.2	21.8	88	3	1	4	.....	.....	.....	6	15	.....	7393	11898	6	6.94	176.3
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	30.01	762.2	30.04	763.0	69.2	20.7	86	.....	4	...	3	1	.....	5	17	.....	4347	6996	6	5.69	144.5
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.26	743 2	30.08	764 0	64.3	17.9	82	6	.....	2	1	4	.....	4	12	1	3381	5441	6	3.45	87.6
Charleston *a*	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.99	761.7	30.01	762.2	73.5	23.1	88	2	3	1	1	.....	2	6	11	3	5765	9278	7	3.32	84.3
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.89	759.2	30.04	763.0	68.8	20.4	89	1	2	1	1	1	1	2	16	5	3154	5076	7	2.78	70.6
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.95	760.7	30.01	762.2	72.9	22.7	89	5	4	1	2	3	1	6	8	.....	5501	8853	6	12.00	304.8
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.96	761.0	29.97	761.2	74.8	23.8	92	1	1	3	1	5	2	5	9	3	3835	6172	6	19.63	498.6
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	29.94	760.5	29.92	760.0	77.8	25.4	90	4	1	2	1	2	2	9	7	2	5063	8148	6	5.76	146.3
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.97	761.2	29.94	760.5	82.2	27.9	86	1	1	2	2	1	12	9	1	1	4544	7313	6	5.23	132.8
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.97	761.2	29.96	761.0	75.3	24.1	97	3	4	2	1	2	3	3	7	5	2921	4701	4	10.73	272.3
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.91	734.3	30.05	763 3	64.9	18.3	91	1	4	4	1	2	3	12	3	.....	7086	11404	6	6.51	165.4
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.95	760.7	29.94	760 5	74.7	23.7	89	3	5	.....	3	3	1	4	9	2	4599	7401	8	5.50	139.7
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.95	760.7	29.95	760.7	72.5	22.5	93	5	7	3	3	.....	2	2	7	1	4824	7761	8	9.25	234.9
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.79	756 7	29.98	761.5	70.1	21.2	92	2	2	.....	2	3	1	4	13	3	3612	5813	6	4.83	122.7
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.79	756.7	29.98	761.0	68.8	20.4	90	3	4	.....	2	.....	3	7	7	4	3217	5177	7	9.28	235.7
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.91	759 7	29.93	760.2	74.3	23.5	93	.....	3	2	1	1	3	4	14	2	4605	7411	6	13.55	344.2
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.77	756.1	29.97	761.2	69.2	20.7	92	3	2	.....	3	6	5	3	8	.....	.....	.....	5	*6.70	170.2
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.52	749.8	29.98	761.5	63.6	17.6	89	.....	.....	1	2	...	1	17	3	6	3054	4915	6	0.99	25.1
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.69	754.1	29.96	761.0	67.7	19.8	89	5	5	.....	3	2	4	3	7	1	3543	5702	6	2.06	52.3
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.93	760.2	29.93	760 2	77.5	25.3	87	4	.....	.....	2	10	2	4	8	.....	8028	12920	5	26.01	660.6
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29 91	759.7	29.90	759 4	76.3	24.6	91	7	.....	1	2	8	3	.....	8	1	9686	15588	5	10.36	263.1
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.46	748.3	29.98	761.5	69.4	20.8	90	6	.....	.....	1	10	1	2	10	.....	5891	9480	6	4.63	117.6
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.16	740.7	29.92	760.0	70.7	21.5	92	14	1	.....	.....	1	8	1	4	1	3861	6214	5	1.51	38.4
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.87	758.7	29.88	758.9	74.8	23.8	97	3	8	.....	1	7	3	1	3	4	4690	7548	6	3.55	90.2
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.74	755.4	29.89	759.2	75.2	24.0	93	4	4	.....	.....	1	8	3	4	6	4434	7136	4	5.24	133.1
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.25	742.9	30.04	763.0	63.6	17.6	92	5	3	2	3	2	1	2	10	2	3508	5638	7	6.48	164.6
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.08	738.6	30.07	763 8	62.1	16.7	86	4	.....	3	1	1	1	7	12	1	3621	5827	6	2.21	56.1
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.69	754.1	30.00	762.0	67.1	19.5	87	2	7	1	1	2	5	1	10	.1	3707	5966	5	4.42	112.3
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.48	748 8	30.03	762.7	64.7	18.2	84	1	2	4	2	3	2	8	8	.....	4049	6516	6	5.60	142.2
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.50	749.3	30.06	763.5	61.9	16.6	86	4	5	1	4	6	3	1	4	2	4226	6801	5	5.71	145.0
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.12	739.6	30.04	763.0	57.8	14.3	85	2	4	1	5	4	4	5	5	.....	3783	6088	5	6.01	152.7
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.26	743.2	30.04	763 0	56.9	13.8	86	3	4	2	3	6	3	1	5	3	3144	5060	6	3.50	88.9
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.42	747 3	30.06	763.5	58.6	14.8	86	...	3	4	2	2	2	8	1	3	3776	6077	4	2.72	69.1
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.23	742.4	30.06	763.5	57.0	13.9	87	2	3	2	8	2	5	2	3	3	3905	6284	4	2.84	72.1
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.27	743.4	30.06	763 5	56.8	13.8	85	2	3	1	3	4	1	.....	3	13	2918	4696	4	1.69	42.9
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.40	746 7	30.05	763.3	54.0	12.2	87	.....	3	3	15	3	.....	1	3	2	6755	10871	5	2.49	63.2
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.33	745.0	30.05	763.3	56.1	13.4	84	2	3	4	4	6	3	5	3	.....	6869	11054	4	4.88	123 9
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.08	753.9	30.03	762.7	55.0	12.8	79	3	3	3	4	10	4	1	3	.....	7004	11272	6	3.62	91.9
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.34	745.2	30.05	763 3	58.1	14.5	73	2	2	1	8	10	4	1	2	.....	6583	10594	5	3.42	86.9
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.40	746 7	30.06	763.5	58.1	14.5	77	4	.....	2	12	7	3	2	.....	.....	7724	12430	5	1.82	46.2
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.33	745.0	30.04	763.0	56.3	13.5	87	3	.....	3	2	6	13	2	.....	1	6260	10074	4	2.01	51.1
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.38	746.2	30.05	763.3	57.3	14.1	86	2	5	4	9	1	3	2	2	2	5179	8335	4	2.17	55.1
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.35	745.5	30.04	763.0	57.4	14.1	81	4	4	4	5	4	2	2	5	.....	6354	10226	5	1.54	39.1
Upper lake region.																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.36	745 7	30.01	762.2	50.4	10.2	87	1	2	12	6	1	4	2	2	.....	6894	11095	4	3.76	95.5
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.34	745 2	30.00	762.0	50.5	10.3	82	3	4	3	10	2	.....	.....	8	.....	6883	11077	5	1.69	42.9
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.37	746 0	30.02	762.5	55.7	13.2	83	2	4	2	2	4	6	7	1	2	6813	10961	5	4 71	119.6
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.35	745.5	30.00	762.0	52.2	11.2	86	1	4	5	9	2	.....	8	1	.....	7581	12200	5	0.69	17.5
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.24	742.7	29.97	761.2	51.0	10.6	78	3	1	13	7	2	3	.....	1	7021	11299	6	1.00	25.4
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	633	193	29.37	746.0	30.04	763.0	53.2	11.8	87	1	3	5	7	6	3	1	4	.....	5940	9559	5	2.06	52.3
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.33	745.0	30.02	762.5	60.1	15.6	77	3	2	3	6	6	4	4	1	1	5726	9215	5	2.97	75.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for September, 1885.																				Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.											Average Cloudiness.		
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. States—Con.																											
U. lake region—Con.	° ′	° ′																									
Milwaukee	N. 43 02	W. 87 54	5.08 a.m.	697	212	29.27	743.4	30.00	762.0	55.2	12.9	83	3	7	3	6	5	1	1	3	1	7569	12084	5	3.30	83.8
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.24	742.7	29.97	761.2	49.2	9.6	80	2	6	5	6	.....	.....	2	9	.....	5027	9056	5	2.35	59.7
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.09	738.9	29.97	761.2	50.7	10.4	89	2	1	6	4	4	9	.....	1	3	5852	9418	4	3.52	89.4
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.22	742.2	29.97	761.2	54.9	12.7	84	3	6	2	5	9	3	.....	2	.....	5566	8958	4	4.78	121.4
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.37	746.0	30.01	762.2	57.2	14.0	85	2	4	1	4	4	4	5	3	3	5135	8264	4	4.19	106.4
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.12	739.6	30.00	762.0	57.1	13.9	88	5	1	4	5	.....	6	1	6	2	3694	5945	6	4.82	122.4
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.32	744.7	30.01	762.2	55.4	13.0	87	2	4	2	2	4	2	2	.....	12	3109	4987	4	4.58	116.3
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.37	746.0	30.01	762.2	58.6	14.8	86	4	3	1	4	7	3	3	3	2	5153	8293	4	3.77	95.8
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.67	753 6	30.02	762.5	64.0	17.8	86	9	1	1	2	4	2	5	5	1	4264	6862	5	4.76	120.9
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.38	746.2	30.03	762.7	59.0	15.0	80	1	3	2	1	7	1	4	2	9	4024	6476	4	4.47	113.5
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.44	747.8	30.02	762.5	63.1	17.3	85	3	2	1	6	4	3	2	8	1	6730	10831	4	5.98	228.1
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.14	740.1	30.00	762.0	59.2	15.1	87	3	3	1	.....	8	4	2	2	7	4294	6910	4	7.65	194.3
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.86	733 0	30.00	762.0	57.8	14.3	87	7	3	1	3	7	6	1	.....	2	6235	10034	4	2.50	63 5
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.40	727 3	29.99	761.7	49.9	9.9	83	10	5	2	1	5	6	.....	1	.....	4964	7989	4	1.47	37.3
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.58	725.9	29.96	761.0	49.1	9.5	86	2	6	4	.....	.....	13	1	1	3	5782	9305	4	2.61	66.3
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28 69	728.7	29.98	761.5	54.1	12.3	87	1	6	4	5	4	4	2	1	3	5664	9113	5	4.80	121.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28 96	735.6	30.01	762.2	59.7	15.4	92	1	2	1	2	4	8	8	4	.....	5914	9518	5	13.24	336.3
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2604	793	27.30	693.4	29.93	760.2	50.1	10.1	80	6	.....	6	6	3	2	3	.....	4	7410	11925	4	2.23	56.6
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28 94	735.1	29.94	760.5	45.4	7.4	89	5	1	5	5	5	5	.....	1	3	7287	11727	3	2.20	55.9
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.05	737.9	29.93	760.2	43.2	6.2	90	1	5	5	2	7	3	2	.....	5	5839	9397	4	0.98	24.9
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28 14	714.7	29.94	760.5	45.9	7.7	79	5	3	2	.....	.....	7	1	.....	12	4248	6836	3	0.14	3.6
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.91	708 9	29.94	760.5	43.7	6.5	81	2	8	3	2	6	.....	3	5	1	5266	8475	6	0.26	6.6
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1500	457	28.33	719.6	29.93	760.2	44.6	7.0	81	2	3	6	6	3	7	1	.....	2	8603	13845	3	0.13	3.3
Northern slope.																											
Ft. Assiniaboine	N. 48 32	W .109 42	4.41 a.m.	2720	829	27.12	685.8	29.98	761.5	47.9	8.8	66	1	1	10	7	5	3	2	1	.....	7714	12414	4	0.17	4.3
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.19	690.6	30.03	762.7	45.9	7.7	73	.....	.....	4	14	1	1	1	5	4	d5300	d8529	5	0.25	6.3
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.83	681 5	29.95	760.7	48.3	9.1	72	6	.....	3	1	1	.....	16	2	1	4571	7356	5	0 68	17.3
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.55	649 0	29.95	760.7	46.8	8.2	70	9	3	8	.....	2	3	2	3	.....	6501	10559	6	1.13	28.7
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26 33	668.8	29.95	760.7	48.2	9.0	68	2	2	21	2	.....	.....	1	1	1	5619	9043	4	0.25	6.3
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.84	656.3	29.96	761.0	47.2	8.4	79	2	3	2	23	.....	.....	.....	.....	.....	4329	6967	4	0.11	2.8
Poplar River	N. 48 08	W. 105 10	4.59 a.m	2030	619	27.82	706 0	29.98	761.5	40.4	4.7	85	4	5	9	4	1	5	1	1	.....	4882	7857	3	0.15	3.8
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.41	645.4	29.97	761.2	48.8	9.3	78	1	.....	.....	16	.....	1	1	9	2	2901	4669	3	0.90	22.9
Cheyenne a	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.08	611.6	29.95	760.7	45.5	7.5	71	2	15	5	.....	2	3	1	.....	1	7192	11574	2	0.69	17.5
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27 09	688 1	29.95	760.7	53.3	11.8	86	4	3	3	1	6	7	2	3	1	6293	10127	4	0.86	21.8
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.96	456.2	29.93	760.2	27.2	—2.7	82	3	5	9	6	3	.....	.....	2	2	10956	17623	2	1.04	26.4
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.54	724.9	29.96	761.0	57.6	14.2	88	1	3	1	5	8	1	6	5	.....	6836	11001	4	3.53	89.7
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.81	630.2	29.91	759.7	50.7	10.4	69	7	1	1	1	19	.....	.....	.....	1	4561	7340	3	1.22	31.0
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899f	1188f	26.08	662.4	29.88	758.9	50.6	10.3	85	2	1	11	5	.....	1	5	2	3	4563	7343	3	0.99	25.1
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.42	696 5	29.93	760.2	57.9	14.4	89	3	5	3	2	2	13	1	1	.....	9129	14692	3	3.48	88.4
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.27	692.6	29.94	760.5	58.6	14.8	88	4	4	1	2	12	3	1	1	2	6604	10628	3	0.65	16.5
Southern slope.																											
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.77	730 7	29.96	761.0	62.4	16.9	92	11	2	.....	.....	2	2	.....	2	11	5503	8856	5	2.83	71.9
Abilene o	N. 32 14	W. 99 45	5.21 a.m.	1748	533	.....	.....	.....	.....	63.8	17.7	87	2	1	.....	3	2	2	4	2	.....	.....	.....	2	.....	.....
Fort Concho o	N. 31 25	W. 100 24	5.18 a.m.	1900	579	28.05	712 5	29.92	760.0	69.1	20.6	93	.....	.....	1	1	5	1	4	.....	3	2395	3854	6	2.21	56.1
Fort Stockton j	N. 30 53	W. 102 53	5.08 a.m.	3004	916	27.05	687.1	29.98	761.5	61.6	16.4	87	1	.....	.....	.....	.....	13	1	2	3	2442	3930	2	1.22	31.0
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.22	640.6	29.88	758.9	58.4	14.7	77	3	8	5	5	.....	.....	1	1	7	3937	6326	3	1.58	40.1
Southern plateau.																											
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622f	1104f	26.26	667.0	.....	.....	66.3	19.1	38	3	1	.....	.....	.....	1	17	7	1	3580	5761	0	0	0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.37	593.6	29.03	760.2	51.1	10.6	60	2	1	.....	2	.....	4	11	10	.....	4743	7633	2	1.87	47.5
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.22	691 4	29.83	757.7	60.0	15.6	57	1	.....	4	1	10	1	2	.....	11	.....	.....	2	0.02	0.5
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.08	637.0	29.85	758.2	52.4	11.3	65	.....	.....	1	3	1	1	15	9	.....	4741	7630	2	0.44	11.2
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.26	641.6	29.83	757.7	63.4	17.4	41	7	4	2	2	.....	7	.....	8	.....	4974	8005	1	0.81	20.6
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.77	629.1	29.89	759.2	51.2	10.7	60	.....	.....	1	3	8	1	1	.....	16	4478	7206	1	0.11	2.8
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.03	752.6	29.75	755.6	73.0	22.8	a78	1	3	.....	1	.....	9	.....	6	10	2941	4733	1	0	0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.28	667 5	29.90	759.4	62.3	16.8	63	1	6	3	1	.....	2	9	3	5	2512	4043	3	0.22	5.6
Middle plateau.																											
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643f	2025f	23.56	598.4	.....	.....	41.3	5.2	72	.....	3	2	16	4	.....	1	2	2	5282	8501	2	0.99	25.1
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.62	650.7	29.86	758.4	56.8	13.8	64	2	1	1	1	.....	15	3	3	4	3584	5768	4	1.29	32.8
Fr'sco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.74	603 0	.....	.....	57.3	14.1	37	6	4	5	13	1	.....	.....	1	.....	7973	12831	1	0.07	1.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25 63	651.0	29.92	760.0	48.5	9.2	45	.....	.....	.....	.....	8	5	1	4	12	4734	7619	1	0.08	2.0
Montrose	N. 38 30	W. 107 50	4.48 a.m.	5825	1775	24.37	619 0	29.97	761.2	47.2	8.4	74	.....	.....	.....	.....	2	5	19	3	1	5907	9506	2	0.53	13.5
Fort Bidwell j	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.46	646.7	.....	.....	39.5	4.2	.....	3	3	2	3	.....	.....	.....	.....	10	2250	3621	2	0.09	2.3
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.15	689.6	29.92	760.0	51.5	10.8	72	1	3	.....	.....	2	10	4	4	6	2590	4168	2	0.39	9.9
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.17	740.9	29.95	760.7	53.9	12.2	76	.....	.....	.....	4	.....	7	1	5	13	2183	3513	4	0.66	16.8
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.95	709.9	30.00	762.0	51.8	11.0	82	2	1	1	6	2	3	2	4	9	4061	6536	5	0.88	22.4
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.22	716.8	29.97	761.2	50.4	10.2	77	2	.....	.....	10	.....	7	2	6	3	3771	6069	3	1.15	29.2
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3 .44 a.m.	179	55	29.74	755.4	29.94	760.5	56.8	13.8	92	7	1	9	5	5	1	1	1	.....	5893	9484	5	3.43	87.1
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.91	759.7	29.95	760.7	52.6	11.4	94	1	1	.....	1	19	3	.....	.....	5	2719	4376	5	3.09	93.7
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.90	759 4	29.92	760.0	48.3	9.1	96	.....	.....	.....	.....	4	22	3	1	.....	2085	4323	4	3.25	82.5
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.82	757 4	29.92	760.0	54.6	12.6	94	.....	...	1	13	5	4	4	3	.....	7839	12615	7	9.66	243.8
Portland a	N. 45 32	W. 122 43	3.49 a.m	80	24	29.88	758.9	29.97	761.2	55.3	12.9	89	.....	6	.....	1	6	7	.....	.....	9	3597	5789	4	2.48	63.0
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.45	748.0	30.00	762 0	51.1	10.6	90	.....	2	1	1	.....	.....	1	.....	25	1510	2430	3	0.36	9.1
Mid Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.29	744.0	29.96	761 0	54.1	12.3	83	23	2	... ..	.	.....	.....	2	3	14310	23029	3	1.59	40.4
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.54	750.3	29.87	758.7	64.2	17.9	51	10	14	.....	2	3	1	.....	.....	1	4081	6568	1	Inap.	Inap.
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.80	756.9	29.86	758.4	58.0	14.4	73	1	4	1	2	5	15	1	.....	1	4468	7190	1	0.08	2.0
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.85	758.2	29.90	759.4	56.4	13.6	91	.....	3	5	18	1	.....	.....	.....	3	6688	10763	4	0.11	2.8
S. Pac. coast reg'n.																											
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.65	753.1	29.91	759.7	53.9	12.2	84	5	3	9	1	.....	5	.....	1	6	4212	6827	2	0.02	0.5
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.47	748.5	29.80	756.9	59.5	15.3	88	1	3	3	.....	.....	2	3	3	15	2562	4123	3	0.05	1.3
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.80	756.9	29.84	757.9	63.6	17.6	89	5	9	.....	3	4	4	.....	2	3	3735	6011	6	Inap.	Inap.
Alaska stations.																											
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.56	750.8	29.66	753.4	51.0	10.6	86	.....	1	6	.....	.....	12	6	.....	5	7263	11688	8	8.33	211.6
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.68	753 9	29.72	754.9	44.1	6.7	85	4	9	8	3	1	4	.....	.....	1	9538	15350	10	7.64	194.1
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.89	759.2	29.94	760.5	44.6	7.0	94	5	1	.....	6	11	.....	1	2	4	7147	11502	9	3.32	84.3
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.91	759.7	29.86	758.4	75.9	24.4	91	8	2	.....	.....	.....	.....	1	19	...	.....	.....	6	8.07	205.0
Cay Sal l ight H.	N. 23 56	W. 80 28	6.38 a m.	?	?	.....	.....	30.09	764.3	83.7	28.7	69	.....	2	2	1	1	4	15	3	2	.....	.....	5	0.27	6.9
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.92	760.0	79.1	26.2	82	12	.....	.....	.....	.....	.....	2	.....	16	1504	2420	6	5.11	129.8
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.02	762.5	29.94	760.5	79.9	26.6	81	.....	.....	.....	2	5	9	14	.....	.....	.....	.....	4	4.70	119.4
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.0	25.0	.....	3	2	.....	2	1	5	6	11	.....	.....	.....	6	5.40	137.2

OCEAN SQUARE DATA FOR SEPTEMBER, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.90	759.4	82.4	28.0	2	1			2		3	21		1	3.7
12.5 27.5	29.93	760 2	83.4	28.6	3	1			2	3	8	11	1	1	3.4
12.5 32.5	29.94	760.5	84.1	28.9	1				1	3	15	7	1	2	3.6
12.5 37.5	29.94	760.5	84.8	29.3	1					5	22	1	1		3.3
12.5 42.5	29.94	760.5	85.5	29.7					2	4	21	2	1		3.3
12.5 47.5	29.93	760.2	85.3	29.6					3	7	18	2			3.2
12.5 52.5	29.92	760.0	84.4	29.1					3	6	20	1			3.3
17.5 22.5	29.96	761.0	80.4	26.9						1	3	26			3.7
17.5 27.5	29.98	761.5	81.4	27.4							19	10		1	3.4
17.5 32.5	29.59	761.7	82.6	28.1						1	26	3			3.7
17.5 37.5	30.00	762.0	83.6	28.7						2	27	1			3.6
17.5 42.5	29.99	761.7	84.3	29.1						6	24				3.7
17.5 47.5	29.98	761.5	85.2	29.6					1	12	16	1			3.8
17.5 52.5	29.96	761.0	84.9	29.4					4	10	15	1			3.7
17.5 57.5	29.93	760.2	84.9	29.4		1		2	1	6	17	1	1	1	3.6
22.5 22.5	30.02	762.5	78.6	25.9							5	25			3.5
22.5 27.5	30.05	763.3	79.9	26.6							18	12			3.7
22.5 32.5	30.06	763.5	81.2	27.3							26	3		1	3.9
22.5 37.5	30.07	763.8	82.3	27.9					1	2	25			1	3.8
22.5 42.5	30.07	763.8	83.2	28.4						8	22				3.7
22.5 47.5	30.05	763.3	83.9	28.8						13	17				3.8
22.5 52.5	30.02	762.5	83.8	28.8					4	12	14				3.8
22.5 57.5	29.99	761.7	84.1	28.9	1	1	1		2	8	15		2		3.9
22.5 62.5	29.97	761.2	83.6	28.7	1	2		1	3	7	14	1	1		3.6
22.5 67.5	29.96	761.0	83.4	28.6	1	3		1	3	12	8	1	1		3.4
22.5 72.5	29.94	760.5	83.6	28.7	1		1	1	3	8	15			1	3.4
27.5 22.5	30.10	764.5	77.1	25.1	5						11	14			3.5
27.5 27.5	30.13	765.3	78.3	25.7	1						16	11		2	4.1
27.5 32.5	30.14	765.5	79.5	26.4	2				1	2	17	4		4	4.0
27.5 37.5	30.15	765.8	80.9	27.2					3	5	16	2		4	4.1
27.5 42.5	30.14	765.5	81.6	27.6				1	3	12	12	1		1	3.8
27.5 47.5	30.12	765.0	81.7	27.6					9	12	7		1	1	3.4
27.5 52.5	30.08	764.0	81.8	27.7					15	9	6				4.0
27.5 57.5	30.04	763.0	82.0	27.8	1										
27.5 62.5	30.01	762.2	82.3	27.9	2	1		1	9	14	4	1			3.9
27.5 67.5	30.00	762.0	82.7	28.2	3			1	7	13	5	1			4.0
27.5 72.5	29.98	761.5	82.5	28.1	1			2	4	10	7	4	1		3.8
27.5 77.5	29.97	761.2	81.7	27.6		1	1	1	5	6	10	4	1	1	3.7
32.5 12.5	30.07	763.8	74.3	23.5	10		1		6	9	11	1			3.0
32.5 17.5	30.11	764.8	74.1	23.4	15		1				4	14	1		3.7
32.5 22.5	30.16	766.1	75.4	24.1	8		1				1	12	1		3.3
32.5 27.5	30.20	767.1	76.4	24.7	3	1	1				4	17			3.6
32.5 32.5	30.21	767.3	77.3	25.2		3			3	5	6	12		2	3.8
32.5 37.5	30.20	767.1	78.2	25.7	2	2		2	6	7	8	6		3	4.0
32.5 42.5	30.19	766.8	79.0	26.1	3	1	1	4	9	6	9	1		2	3.9
32.5 47.5	30.15	765.8	79.1	26.2		1	3	2	14	6	3	2		1	4.2
32.5 52.5	30.10	764.5	79.1	26.2		1	2	6	12	5	3	1			4.4
32.5 57.5	30.05	763.3	79.0	26.1	1		2	5	11	7	3		1		3.4
32.5 62.5	30.03	762.7	79.4	26.3	2		3	6	10	4	3	3			4.4
32.5 67.5	30.02	762.5	79.1	26.2	5	2	1	6	4	4	1	2			4.1
32.5 72.5	30.01	762.2	78.4	25.8	5	1	2	4	2	3	6	6	1		4.1
32.5 77.5	30.02	762.5	75.7	24.3	4	2	2	3	1	1	11	4	3		4.4
37.5 12.5	30.10	764.5	71.8	22.1	11	4	4	2				5	1		3.6
37.5 17.5	30.15	765 8	71.4	21.9	7	9	4	1				9			3.8
37.5 22.5	30.21	767.3	72.5	22.5	11	4	6			1	2	9			4.1
37.5 27.5	30.14	768.1	73.6	23.1	3	5	6	1	2	2	4	5	1		3.5
37.5 32.5	30.22	767.6	74.1	23.4	3	4	6	4	4	4	4	5	2		3.2
37.5 37.5	30.18	766.6	74.2	23.4	3	3	4	7	7	5	1	1			3.8
37.5 42.5	30.14	765.5	74.3	23.5	1	3	4	10	6	2	1				4.0
37.5 47.5	30.11	764.8	74.2	23.4	2	4	7	5	8		3	3			4.5
37.5 52.5	30.08	764.0	73.5	23.1	4	4	3	8	6	4	1	1			4.8
37.5 57.5	30.03	762.7	73.9	23.3	1	2	4	8	5	2	1				4.8
37.5 62.5	30.00	762.5	73.3	22.9	4	4	2	8	1	5		7			4.7
37.5 67.5	30.02	762.5	72.0	22.2	8	3	1	6	3	1	2	6			5.3
37.5 72.5	30.04	763.0	70.2	21.2	11	1	1	4	1	1	5	6			4.5
42.5 12.5	30.07	763.8	68.6	20 3	2	5	13	2				4	2		3.7
42.5 17.5	30.10	764.5	67.6	19.8	1	8	12	2	1		1	6	2		3.8
42.5 22.5	30.14	765.5	68.1	20.1	1	11	9	3	1	1	1	5			5.0
42.5 27.5	30.16	766.1	68.5	20.3		10	7	7	1	1	2	3			5.0
42.5 32.5	30.15	765.8	68.7	20.4	2	3	8	9	3	2	1	2			4.9
42.5 37.5	30.10	764.5	68.9	20.5	4	3	4	11	3	4		1	1		4.6
42.5 42.5	30.07	763.8	67.9	19.9	3	3	4	7	5	3	2	3			5.2
42.5 47.5	30.06	763.5	65.7	18.7	6	2	7	3	2	5	2	1	1	1	5.3
42.5 52.5	30.03	762.7	64.8	18.2	5	2	3	9	4	4	2	1			4.9
42.5 57.5	30.00	762.0	64.4	18.0	3	5	5	6	3	2	1	5			5.0
42.5 62.5	30.00	762.0	62.1	16.7	3	2	6	6	2	1	1	6	3		5.0
42.5 67.5	30.02	762.5	58.0	14.4	4	5	5	2	3			4	7		4.0
47.5 12.5	29.97	761.2	63.5	17.5	1	4	13	5	2	1		3	1		3.1
47.5 17.5	29.98	761.5	62.7	17.1	2	6	11	8	1			2			5.1
47.5 22.5	29.99	761.7	62.1	16.7	1	7	10	9				3			5.5
47.5 27.5	29.99	761.7	61.8	16.6	3	5	11	6	1	1	1	2			5.4
47.5 32.5	29.99	761.7	62.3	16.8	1	6	6	10	2	2	1	2			5.6
47.5 37.5	29.99	761.7	61.4	16.3		10	4	8	3	1	3	1			5.5
47.5 42.5	29.98	761.5	58.0	14.4	4	5	8	6	4	2		1			5.2
47.5 47.5	29.97	761.2	55.0	12.8	5	3	10	6	5	1					5.0
52.5 12.5	29.81	757.2	57.5	14.2	2	5	11	7	2	2	1				4.5
52.5 17.5	29.80	756.9	56.7	13.7	5	6	8	9	1			1			5.1
52.5 22.5	29.79	756.7	55.8	13.2	6	6	8	8	1		1				6.1
52.5 27.5	29.80	756.9	55.4	13.0	1	11	6	8	1	1	1	1			5.8
52.5 32.5	29.82	757.4	54.9	12.7	3	7	8	6	3	1		1		1	5.6
52.5 37.5	29.83	757.7	53.7	12,1	1	10	6	6	4	1		1	1		5.5
52.5 42.5	29.84	757.9	52.6	11.4	2	10	6	4	7				1		5.0
52.5 47.5	29.82	757.4	49.2	9.6	1	10	5	5	9						5.1
57.5 12.5	29.63	752.6	54.0	12.2	3	4	6	10	2	3		2			4.8
57.5 17.5	29.61	752.1	52.7	11.5	6	5	7	6	2	1	1	2			5.9
57.5 22.5	29.61	752.1	51.5	10.8	5	5	7	5	3		1	4			6.5
57.5 27.5	29.64	752.8	50.1	10.1	5	4	9	5	2		1	4			6.9
57.5 32.5	29.67	753.6	48.7	9.3	6	6	6	5	2		3	2			6.9
57.5 37.5	29.69	754.1	46.7	8.2	4	8	6	4	4		4				6.3
57.5 42.5	29.71	754.6	45.5	7.5	4	8	4	5	3	3	2	1			6.0
57.5 47.5	29.73	755.1	43.7	6.5	1	9	3	3	2	8	1	2	1		5.5
															5.0

REVIEW.

INTERNATIONAL METEOROLOGY FOR SEPTEMBER, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of September, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean barometric pressure is located over the north Atlantic Ocean, between longitude 0° and W. 30°, and latitude N. 59° and 69°, and includes Iceland and the Faröe Islands, where mean pressures 29.58 (751.3), at Stykkisholm, and 29.56 (750.8), at Thorshavn, are shown. A second area of low mean pressure, charted over British India, is included within the isobar of 29.70 (754.4), and exhibits mean pressure ranging to 29.61 (752.1) at northern stations. A third area of low mean pressure extends over southern and a portion of Lower California, the northern half of the Gulf of California, and portions of Sonora, Mexico, and Arizona; the lowest mean pressure within this area being 29.75 (755.6), at Yuma, Arizona.

The area of highest mean barometric pressure is located over the north Atlantic Ocean between the thirtieth and fortieth parallels and the twenty-second and thirty-eighth meridians, and includes mean pressure ranging to 30.24 (768.1). An area of relatively high mean pressure, surrounded by the isobar of 30.00 (762.0), extends over central Siberia from longitude 85° to 120° E. Over North America the mean pressure for the month ranges above 30.00 (762.0) along the eastern coast of the United States north of Florida and westward within a contracting area to the ninety-fifth meridian; from thence westward to the Rocky Mountain range the mean pressure gradually decreases to 29.90 (759.4). In the northern Pacific coast states the mean pressure ranges from 29.90 (759.4) to 30.00 (762.0). North of the fiftieth parallel the mean pressure is below 29.90 (759.4). In the Canadian Maritime Provinces it ranges from 29.90 (759.4) to 30.00 (762.0).

Over Europe the mean pressure for the month is highest over Spain, where it ranges to 30.07 (763.8), and lowest over the Orkney Islands, off the north coast of Scotland, where it decreases to 29.66 (753.4). Over the eastern portion it ranges from 29.87 (758.7) in northern Russia to 29.98 (761.5) on the north coast of the Caspian Sea. On the eastern coast of Asia the mean pressure ranges from 29.81 (757.2) on the southeast coast of China to 29.89 (759.2) on the west coast of Corea. Over the Japanese Islands it averages about 29.90 (759.4). Over Behring Sea and the north Pacific Ocean the mean pressure ranges from 29.94 (760.5) at Behring Island to 29.66 (753.4) at Sitka.

Compared with the chart for the preceding month (August, 1885), there has been a decrease of pressure along the coast of the Gulf of Mexico; also in the south Pacific coast region of the United States, and along the northern boundary from Minnesota westward to the Pacific coast. In all other districts the mean pressure is greater than for August. In Canada slight changes in mean pressure are noted in the Maritime Provinces, while over the western districts an increase is shown. Over British America west of the one hundredth meridian the mean pressure is about .10 lower.

Over the north Atlantic Ocean the mean pressure is about .40 lower over the extreme northern portion, and about .10 higher within the permanent area of high pressure south of the fortieth parallel. Over Europe the mean pressure ranges about .12 higher over Spain and France; about .11 lower over the British Isles; about .15 lower over Scandinavia; about .10 higher over the south and southeast portions, and remains approximately the same over central Russia. In Asia there has been an increase in mean pressure of about .20 over central and northern portions of British India, the increase being but about .05 over the southern extremity of the peninsula; over Siberia the increase averages about .10; over the Japanese Isles the mean pressure is about .05 higher; over Behring Sea it is about .10 higher.

Compared with the corresponding month of previous years the mean pressure over the United States was normal, or slightly above the normal, over the central Ohio valley and portions of the middle and south Atlantic states; it was also normal or above at scattering stations in the middle and southern Rocky Mountain regions. In all other districts the mean pressure was below the normal, the deficiencies nowhere exceeding .09 of an inch. In Canada the mean pressure for the month was above the normal obtained from twelve years at all points to the east of the great lakes. The excess was greatest at Halifax, where it amounted to .09 of an inch. In the Northwest Territories it was below the normal obtained for three years. Over the British Isles the pressure was below the average for the month, the deficiency ranging from about .05 along the south coast of England and about .07 in the south of Ireland, to about .10 over the more northern portions of England and Ireland, and to .17 in the Shetlands, Hebrides, and extreme north of Scotland. Over Spain and France the mean pressure averaged slightly above the normal; over Germany it was somewhat below; over Denmark and Scandinavia it ranged from .06 to .09 below the normal; over Italy it was slightly above the normal; over Russia it averaged .07 below the normal; over British India the mean pressure was below the normal, while over the Japanese Islands the average pressure for the month was slightly below the normal.

In the United States the mean temperature for the month was about normal in the southern districts east of the Rocky Mountains; it was slightly above the normal in the Rocky Mountain districts and on the Pacific coast, and below the normal from the upper Mississippi River eastward to the Atlantic coast. In Canada the average temperature was below the normal for the month in the eastern provinces by amounts ranging from one to four and one-half degrees. In Manitoba it was above the normal. In the British Isles the mean temperature, as compared with the normal for twenty years, was about two to three degrees low in most places, but varying a little locally over the greater part of England. Over the continent of Europe the mean temperature was generally below the normal, except in Italy and Austro-Hungary, where it was slightly above the normal for eight years. In India the mean temperature was about one and one-half degrees above the normal. In Japan it was slightly above the normal

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	92.3	33.5	Minnedosa, Canada	39.0	3.9
Deesa, India	92.0	33.3	Ivigtut, Greenland	39.9	4.4
Manilla, Philippine Islands	86.1	30.1	Qu'Appelle, Canada	41.2	5.1
Bridgetown, Barbadoes	84.5	29.2	Fort Garry, Manitoba	43.1	6.2
Beirut, Syria	84.0	28.9	Saint Vincent, Minnesota	43.2	6.2
Nassau, Bahamas	82.6	28.1	Unalashka, Alaska	44.1	6.7

In the United States the prevailing winds were mostly southerly in New England, the Lake region, upper Mississippi, Missouri, and Ohio valleys; on the middle and south Atlantic coasts and in the Gulf States they were mostly northeasterly; on the Pacific coast they were generally from the west; in the Rocky Mountain districts they were variable. In Canada the winds were mostly from southwest to westerly. Over the north Atlantic Ocean, north of the fortieth parallel, the winds were westerly; between the thirtieth and fortieth parallels they were variable, while south of the thirtieth parallel they were easterly. Over the British Isles the prevailing winds were southwest to west, except in northern Scotland, where they were southeast. Over Spain, France, Italy, and Austro-Hungary they were variable; over Scandinavia they were

south to east, while over Russia they were variable; over British India they were south to west on the coasts, and variable in the interior; over the Japanese Islands the winds were variable, the most frequent directions being westerly and northwesterly. At Behring Island the prevailing wind was south; over the Aleutian Islands they were northeasterly, while at Sitka they were southeast.

The following table shows the mean pressure and mean temperature for September, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years:

Countries.	Mean pressure.			Mean temperature.		
	Sept. mean of 8 (1877-'84) years.	Sept., 1885.	Departure.	Sept. mean of 8 (1877-'84) years.	Sept., 1885.	Departure.
				°	°	°
Austro-Hungary	29.95	29.96	+ 0.01	66.2	66.9	+ 0.7
British Isles	29.93	29.87	— 0.06	58.1	58.3	+ 0.2
Chili		29.98			56.6	
Denmark	29.89	29.83	— 0.06	58.8	56.7	— 2.1
France	29.99	30.02	+ 0.03	66.9	66.4	— 0.5
Germany	29.97	29.93	— 0.04	63.1	61.6	— 1.5
India	29.70	29.67	— 0.07	83.1	84.5	+ 1.4
Italy	29.95	29.99	+ 0.03	73.9	74.5	+ 0.6
Japan		29.90			69.1	
Norway	29.83	29.74	— 0.09	56.1	53.8	— 2.3
Netherlands		29.91			60.0	
Russia	29.96	29.89	— 0.07	62.6	59.3	— 3.3
Spain*	30.02	30.05	+ 0.03	72.9	70.6	— 2.3
Sweden	29.90	29.81	— 0.09	55.6	52.0	— 3.6

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of September, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Sept. mean of 8 (1877-'84) years.	Sept., 1885.	Departure.	Sept. mean of 8 (1877-'84) years.	Sept., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.03	29.98	— 0.05	70.5	70.9	+ 0.4
Archangel, Russia	29.93	29.97	+ 0.04	50.0	46.8	— 3.2
Athens, Greece	29.96	29.95	— 0.01	82.4	80.8	— 1.6
Beirut, Turkey in Asia	29.87	29.83	— 0.04	84.5	84.0	— 0.5
Barnaul, Siberia, Asia	29.92	29.95	+ 0.03	55.5	56.5	+ 1.0
Bridgetown, Barbadoes*	29.95	29.88	— 0.07	83.3	84.5	+ 1.2
Bucharest, Roumania		30.06			74.7	
Cape Town, Cape of Good Hope				66.2	69.1	+ 2.9
Ekaterinburg, Russia	29.91	29.80	— 0.11	52.3	50.0	— 2.3
Fort Napier, Natal, South Africa*	29.93	29.94	+ 0.01	73.4	71.1	— 2.3
Freetown, Sierra Leone	29.87	29.78	— 0.09	82.6	81.2	— 1.4
Funchal, Madeira Islands	30.13	30.10	— 0.03	75.1	74.1	— 1.0
Gibraltar*	30.03	30.07	+ 0.04	75.3	70.7	— 4.6
Havana, Cuba, W. I.	29.97	29.93	— 0.04	79.7	76.1	— 3.6
Hong Kong, China		29.81			78.0	
Malta, Mediterranean Sea	29.97	30.02	+ 0.05	80.8	78.2	— 2.6
Melbourne, New South Wales	30.02	30.06	+ 0.04	52.4	52.2	— 0.2
Mauritius, Indian Ocean	30.15	30.09	— 0.06	72.9	72.9	normal
Mexico, Mexico		30.05			59.7	
Nassau, Bahamas, W. I.	29.99	29.95	— 0.04	83.0	82.6	— 0.4
Nikolaevsk on the Amoor, Asia		29.93		48.4	46.8	— 1.6
Paramaribo, D. Guiana, S. A.	30.02	29.94	— 0.08	81.2	79.9	— 1.3
Ponta Delgada, Azores	30.20	30.24	+ 0.04	73.6	74.5	+ 0.9
Sandwick Manse, Orkneys	29.87	29.66	— 0.21	53.8	52.5	— 1.3
San Juan de Puerto Rico, W. I.	29.98	29.95	— 0.03	81.1	80.4	— 0.7
Stykkisholm, Iceland	29.64	29.58	— 0.06	45.9	45.5	— 0.4
Tashkend, Toorkistan, Asia	29.93	29.86	— 0.07	70.7	81.9	+11.2
Thorshavn, Färöe Islands	29.76	29.56	— 0.20	51.0	49.6	— 0.4
Tiflis, Russia	29.95	29.93	— 0.02	76.1	78.6	+ 2.5
Tokio, Japan	29.95	29.92	— 0.03	70.1	70.3	+ 0.2
Yeniseisk, Siberia, Asia	29.98	30.07	+ 0.09	47.2	50.2	+ 3.0
Zi-Ka-Wei, China	29.93	29.88	— 0.05	70.9	69.8	— 1.1

* Means for seven years only.

In the United States the precipitation was largely in excess of the average in the Gulf States, the rainfall being heaviest on the Texas coast in the vicinity of Galveston, where it amounted to 26.01 inches, or about one-half of the annual average for the last thirteen years. Marked deficiencies occurred in the middle Atlantic states, New England, the upper lake region, and extreme northwest. In Canada the rainfall was slightly above the average in Ontario; in Quebec it was above the average; in New Brunswick and Nova Scotia it was deficient; in Prince Edward Island it was below the average, while in Manitoba and the Northwest Territories the total for the month was greatly below the average. In the British Isles the rainfall was generally in excess of the average for the month, especially over Ireland and the western parts of Scotland; in the northeastern counties of England and the east of Scotland it was about normal, there being a slight deficit in localities.

In the United States the marked features of the month were the violent storms and tornadoes which occurred over the northern-central portions during the 8th and 9th, and the severe hurricane on the Texas coast from the 15th to the 20th. In Canada the month was remarkable for the fine weather which generally prevailed. The severe storm which swept over the country from the Lakes to the Atlantic on the 22d and 23d, and the less violent storm on the Lakes on the 8th, were worthy of special mention. The weather over the north Atlantic Ocean was generally stormy and unsettled, especially over the region east of the fortieth meridian, with frequent marked fluctuations of the barometer, and moderate to strong gales, mostly from sw. to nw.

The following extract from the "Monthly Weather Report" of the British Meteorological Office gives a general summary of the weather conditions in the British Isles during the month:

> The type of weather changed suddenly at the beginning of the month from a dry (but cool) summer to that of a cold, wet, and gusty autumn. Pressure was below its average value everywhere; temperature was low, and on one occasion unusually so for the time of year. The winds were strong, and chiefly southwesterly to westerly in direction; depressions were very numerous, but none were very large or deep; gales were of frequent occurrence. Bright sunshine was in defect.

Over the continent of Europe, and more especially north of the fiftieth parallel, the weather conditions were generally unsettled, owing to the frequent passage of low-barometer areas which, as a rule, advanced eastward from the ocean. In British India the weather averaged cloudy over the southern part, clear to fair in the interior, and fair in the northeast portion. Off the coast of China and over the Japanese Islands the weather was generally fair, while in Behring Sea and over the Aleutian Islands it was cloudy.

TRACKS OF AREAS OF LOW PRESSURE FOR SEPTEMBER, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during September, 1885. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

Eight areas of low pressure are traced over the North American continent; the average number for September during the last thirteen years being 9.4. The general course of direction of the depressions was easterly, the exceptions being number iv, which circled to the northwestward, describing a loop, and numbers vi and viii, which first appeared in the Gulf of Mexico and circled northwestward to the north Gulf coast. Two depressions are traced from British America west of the one hundred and tenth meridian, and two apparently developed in western Colorado. Number iii developed great energy during its passage over the Lake region on the 8th and 9th, causing great damage to shipping interests, particularly on the upper lakes. The subsequent course of this depression is a marked feature of the month, as it is traced to longitude 170° E. The area numbered vi, which remained nearly stationary off the coast of Mexico and Texas from the 15th to 20th and which afterwards moved northeasterly along the Atlantic coast until its union with cyclonic area number vii on the 23d, exhibited great energy when central over the Gulf of Mexico, and the union was one of the remarkable features of the month.

Eleven areas of low pressure are traced over the north Atlantic Ocean, five of which were continuations of storms which first traversed portions of the North American continent. The general course of direction of these depressions was easterly,

with the exception of number xiii, which moved northeasterly, and number xix, which apparently originated to the eastward of the West India Islands and passed west of north. One depression first appeared off the coast of Labrador, one south of Newfoundland, one over Iceland, and two apparently developed over mid-ocean.

These storms are described in detail in the MONTHLY WEATHER REVIEW for September, 1885, under the headings "Cyclonic areas" and "North Atlantic storms."

Eleven depressions are traced over Europe, seven of which were continuations of storms which traversed the north Atlantic Ocean; one first appeared over the southwest portion of Spain; one developed in the Mediterranean; one is first charted over the Black Sea; and one apparently originated in Scandinavia and passed southeastward, uniting with the depression which moved northward from the Black Sea. The general course of direction of the depressions was easterly, and the tracks were unusually well distributed over the continent, predominating north of the fiftieth parallel.

Number xx first appeared over the Gulf of Bothnia on the 1st, with central pressure about 29.70 (754.4) and rain. By the 2d it moved southeast into west Russia, with an appreciable increase in pressure; from thence passing southeast and uniting with number xxi in south Russia on the 3d. Number xxi is first charted over the Black Sea under date of the 2d, with central pressure about 29.50 (749.3), whence it passed north, and after uniting with number xx on the 3d moved northeast. On the 4th the depression was central over central Russia, with pressure about 29.30 (744.2) and rain-areas from the Black and Caspian Seas to the White Sea; continuing a northeast course it apparently dissipated during the night of the 5th.

Number xxii was a continuation of ocean depression ix and passed over the southern extremities of Norway and Sweden during the 5th, with central pressure about 29.20 (741.7) and fresh gales and rain between the fiftieth and sixtieth parallels; by the 6th it had passed into west Russia, with a marked decrease in energy, and moving south of east during the next three days it advanced northeastward and disappeared east of the seventieth meridian during the 10th.

Number xxiii was a continuation of ocean depression number x and passed eastward over the British Isles during the 6th and 7th, with central pressure about 29.59 (749.3), moderate to fresh gales and rain. On the 8th it was central over the North Sea, with fresh gales on the east coast of England, and rain in Denmark and Germany; from this position, passing north of east, it disappeared in the direction of Finland during the evening of the 10th. Number xxiv passed northeast over the southeastern extremity of Italy during the 9th, with pressure about 29.75 (755.6), and by the 10th was central over the west portion of the Black Sea, with pressure about 29.50 (749.3); thence circling northeast it disappeared east of the sixteenth meridian during the 13th. This storm exhibited considerable energy during the 11th and 12th, with central pressure ranging below 29.40 (746.7).

Number xxv continued ocean depression number xi and passed southeastward along the east coast of the British Isles during the afternoon and night of the 10th, with pressure ranging below 29.40 (746.7). At noon (Greenwich mean time) of the 11th the depression was central over the southern part of Belgium, with evidence of great energy and strong to hard gales over an extended area. From information at hand it is thought a subsidiary depression, which developed south of the British Isles, moved northeastward through the English Channel and united with this depression during the 11th. Following an easterly course, the storm passed through Europe, its track dipping southward toward the Caspian Sea during the 14th and circling northeast into east Russia by the 16th. The depression was not accompanied by disturbances of marked strength after passing into the interior.

Number xxvi was a continuation of ocean depression number xiii and passed over the northern extremity of Scandinavia during the 16th and 17th, with pressure below 29.00 (736.6) on the latter date; thence moving southeast it disappeared in Asia on the 19th. Number xxvii was a continuation of ocean depression number xiv, and, passing south of the British Isles during the 17th, was central over Saxony at 12 noon (Greenwich mean time) of the 18th, whence it moved north of east into Asia by the 21st, without developing special energy. Number xxviii continued ocean depression number xv, and, moving eastward over Scandinavia and Finland during the 21st and 22d, disappeared over Russia on the 23d. This storm exhibited pressure below 29.40 (746.7) on the 21st, but commenced to fill up subsequent to that date.

Number xxix passed southeast over Scandinavia during the 23d and was central over lower Finland on the 24th, whence it moved eastward and disappeared during the 25th. This storm had pressure ranging below 29.40 (746.7), and was accompanied by rather severe disturbances. Number xxx first appeared over the southeastern portion of Spain on the 25th, and, moving northeastward, is traced into Russia, in N. 60°, E. 40°, by the 30th. This storm exhibited fair energy throughout its course, and had pressure ranging to about 29.50 (749.3).

Nine depressions are traced off the eastern coast of Asia, over the Japanese Islands, Behring Sea, and the north Pacific Ocean, two of which appeared between the island of Formosa and the Chinese coast; two apparently originated south of the Japanese Islands; one is traced northeastward over Yesso; one over the Sea of Okhotsk, and three over, or in the vicinity of, the Aleutian Islands. Two storms which originated over the north Pacific Ocean are given a probable track through British America.

Number xxxi first appeared on the 4th in the vicinity of Formosa, whence it moved northeast, and was central on the 5th off the west coast of Kiu-siu, with central pressure about 29.30 (744.2), and strong gales and rain over an area of about ten degrees. From this position it moved west of north into the Yellow Sea off the coast of Corea by the 6th, after which it disappeared to the northward.

Number xxxii passed eastward over Behring Sea, the Alaska Peninsula, and the north Pacific Ocean from the 5th to the 9th, entering British America on the latter date This storm was accompanied by pressure ranging below 29.00 (736.6). Number xxxiii appeared off the Chinese coast west of Formosa on the 11th, and moved northeast, disappearing over Hondo on the 15th. This storm had central pressure about 29.50 (749.3) on the 13th, when central west of Kiu-siu, but apparently commenced to fill up after that date.

Number xxxiv is first charted south of the Japanese Islands in N. 30°, under date of the 16th, and moved east of north to the Kooril Islands by the 19th. This storm exhibited great energy throughout its course, and doubtless occasioned violent disturbances over the ocean east of Japan. Number xxxv was a depression of considerable force which appeared over the Sea of Okhotsk on the 14th. On this date the pressure at Nikolaievsk was 29.22 (742.2), with hard gales and rain. This storm cannot be traced, owing to an absence of reports. Number xxxvi appeared to the westward of the Aleutian Islands on the 22d and moved eastward to the vicinity of Sitka by the 25th, apparently augmenting strength during its passage.

Number xxxvii was a slight depression which passed eastward over Yesso during the 23d. Number xxxviii apparently developed south of Hondo on the 24th and circled northward to the west of Yesso by the 26th, accompanied by general rains over the Japanese Islands during the 25th and 26th. Number xxxix was a storm of marked energy which first appeared south of the Aleutian Islands on the 26th, and, circling to the eastward, disappeared during the 28th.

TRACKS OF AREAS OF LOW PRESSURE FOR AUGUST, 1883.

Chart iii for August, 1883, shows the approximate paths of the principal areas of low pressure that appeared in the northern hemisphere during the month. This chart continues the series of international charts begun in November, 1877, and

the data used in its preparation are obtained from the same sources mentioned above (storm-tracks for September, 1885); the marine observations, however, are neither so numerous nor so complete as in that month.

Seven areas of low pressure are traced over the North American continent, but one of which appeared in the Southern States. The general course of direction of the depressions was north of east, the exceptions being numbers vi and vii, which moved southeastward. Numbers v and vi were accompanied by the most violent disturbances of the month.

Nine areas of low pressure (viii to xvi, inclusive) are traced on the north Atlantic Ocean, two of which (numbers xv and xvi) apparently originated within the tropics. These depressions were accompanied by violent disturbances which were very disastrous in their effects, especially along the coast of the United States and near the Banks of Newfoundland, where many lives were lost and great damage caused to shipping.

The storms traced over the North American continent and the Atlantic Ocean are described in detail in the MONTHLY WEATHER REVIEW for August, 1883.

Nine areas of low pressure (xvii to xxv, inclusive) are traced over Europe and adjacent waters. All of these depressions, save three, are charted through Scandinavia and northern Russia; two apparently originated in the vicinity of the Black Sea and passed northeastward; one is traced southeastward from the Caspian Sea. No storms of pronounced energy occurred over southern, central, or western Europe.

Number xvii was central on the 1st over western Russia, in about latitude 59° N., with central pressure about 29.50 (749.3). By the 2d it had moved north of east into Asia, with slight pressure changes, after which it disappeared beyond the region of observation. Number xviii first appeared on the 2d north of the Black Sea, with central pressure about 29.50 (749.3), and moved northeastward to about N. 55°, W. 45° by the 3d, with a slight decrease in pressure, and rain to the westward; thence passing northeastward into Asia it apparently circled southeast during the 5th and 6th. Number xix was a continuation of ocean depression number viii and entered Norway in about N. 60° during the 5th, with central pressure below 29.60 (751.8), and fresh gales to the southward; passing east it was central over the northern portion of the Baltic Sea on the 6th, with slight pressure changes and evidence of diminished energy; during this date it disappeared to the eastward.

Number xx apparently originated northeast of the Caspian Sea during the 7th and passed southeastward, without developing marked energy. Number xxi was a continuation of ocean depression number ix and entered Norway in N. 61° during the 10th, with central pressure about 29.10 (739.1), and fresh to strong gales and rain over the British Isles and the North Sea. On the 11th it was central over Sweden, in about N. 62°, with an appreciable increase in pressure and a loss of energy. During the next two days it moved eastward over the Gulf of Bothnia and Finland and disappeared in northern Russia.

Number xxii first appeared in Caucasia on the 13th, with pressure about 29.55 (750.6); moving northeastward into Russia, in N. 55°, E. 50°, on the 14th, it exhibited central pressure 29.37 (746.0) and dominated the weather conditions to longitude 25° E. By the 15th it had moved north about five degrees, with pressure below 29.20 (741.7), whence it passed northward beyond the region of observation. Number xxiii was a continuation of ocean depression number x, and, passing over the northern portion of Scotland during the 14th, entered Norway in about N. 59° on the 15th, with pressure below 29.20 (741.7); passing in a slightly north of east direction, it was central on the 16th over southern Finland, with an appreciable increase in pressure; it then circled northwest and passed off the coast of Norway in N. 68° during the 17th, probably uniting with ocean depression number xi.

Number xxiv first appeared over the Gulf of Bothnia on the 24th, with central pressure about 29.60 (751.8); passing southeast it was central over southern Finland on the 25th, with pressure about 29.50 (749.3); circling southeastward into Russia by the 26th, it moved eastward and apparently dissipated during the 27th. Number xxv was a continuation of ocean depression number xiii and entered Norway in N. 67° on the 28th, with pressure about 29.30 (744.2); it then moved southeast and was central on the 29th over southwest Finland, with pressure below 29.20 (741.7); passing southeast through the Gulf of Finland into the Baltic Provinces by the 30th, with pressure below 29.10 (739.1), it circled northeastward and disappeared.

Five areas of low pressure are traced off the east coast of Asia, the tracks being distributed geographically as follows: one is charted over the ocean to the east and southeast of the Japanese Islands; one is traced from the Chinese coast, in about N. 28°, to the west coast of Kiu-siu; one is given a probable track across the Sea of Okhotsk and Kamchatka to the vicinity of Behring Island; one apparently developed in the China Sea and passed northeastward over Formosa, disappearing to the southward of the Japanese Islands, and one passed south of east from Behring Island over the Aleutian Islands.

The following presents the characteristics of the depressions traced:

Number xxvi is located by vessel reports of the 5th in N. 30°, E. 150°, with central pressure about 29.50 (749.3), fresh gales and rain; by the 6th it had moved west of north to N. 35°, E. 148°, without apparent change in pressure; by the 7th it had moved north of west about three degrees, with an appreciable decrease in pressure, fresh to strong gales and rain. Its subsequent course cannot be traced, owing to an absence of reports. Number xxvii apparently advanced from the southeast and was central on the 17th off the west coast of Kiu-siu, with pressure about 29.40 (746.7); during this date it disappeared to the northward. Number xxviii first appeared over the west arm of the Sea of Okhotsk on the 16th, with pressure about 29.50 (749.3); passing eastward it is given a probable track to Behring Island by the 19th, being attended throughout its course by slight pressure changes.

Number xxix is first located in the China Sea, in N. 18°, E. 113°, on the 21st, from which position it moved north of east to N. 22°, E. 118° by the 22d; during the next twenty-four hours it passed over the island of Formosa to N. 25°, E. 123°, and disappeared to the eastward during the 24th. Number xxx is traced from the east coast of Kamchatka south of east over the Aleutian Islands during the 30th and 31st. This storm was possessed of considerable force; pressure about 29.40 (746.7) was exhibited, and fresh to brisk gales were encountered along its track.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith

Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

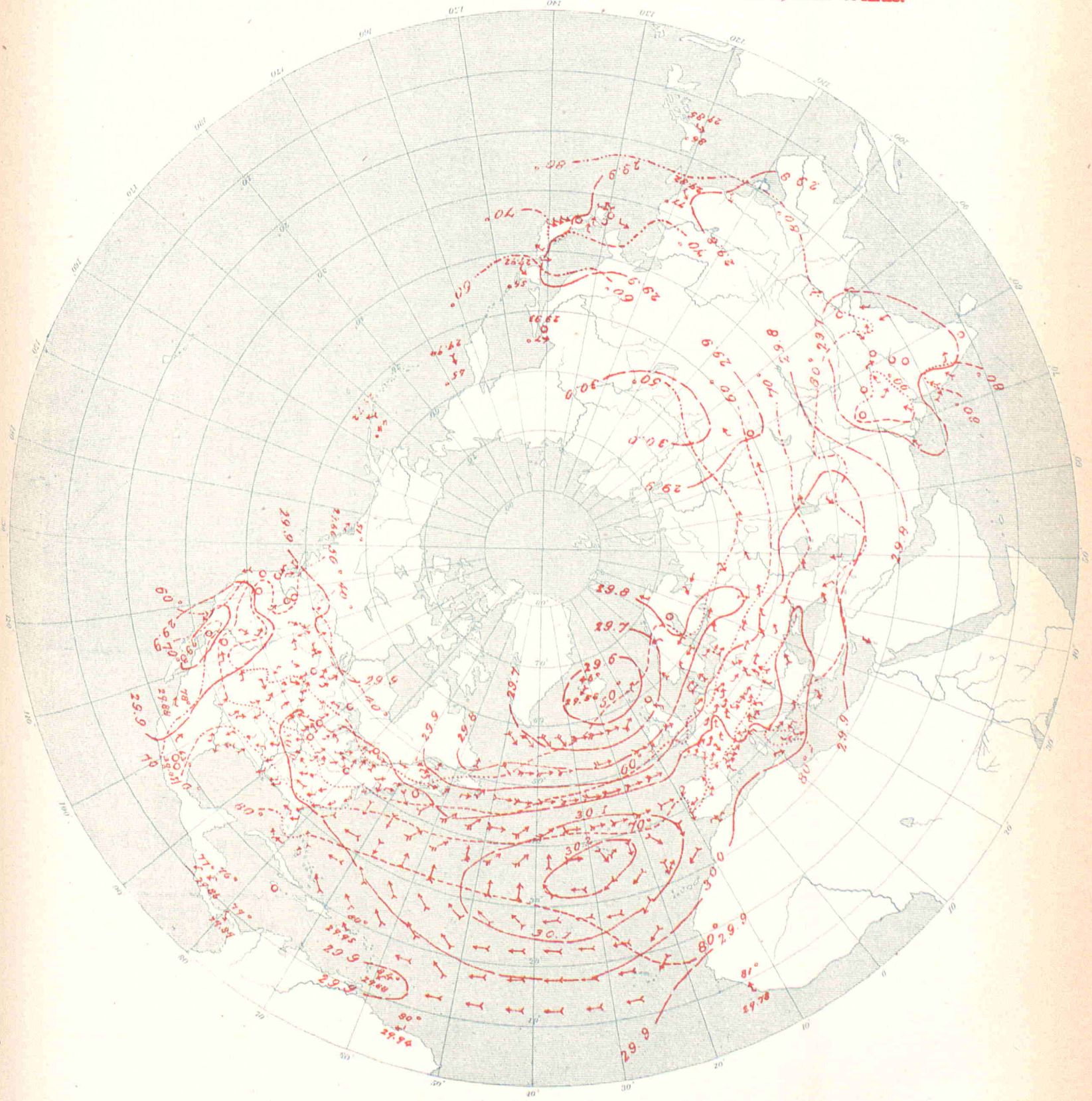
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. September, 1885. Isobars, Isotherms, and Winds.

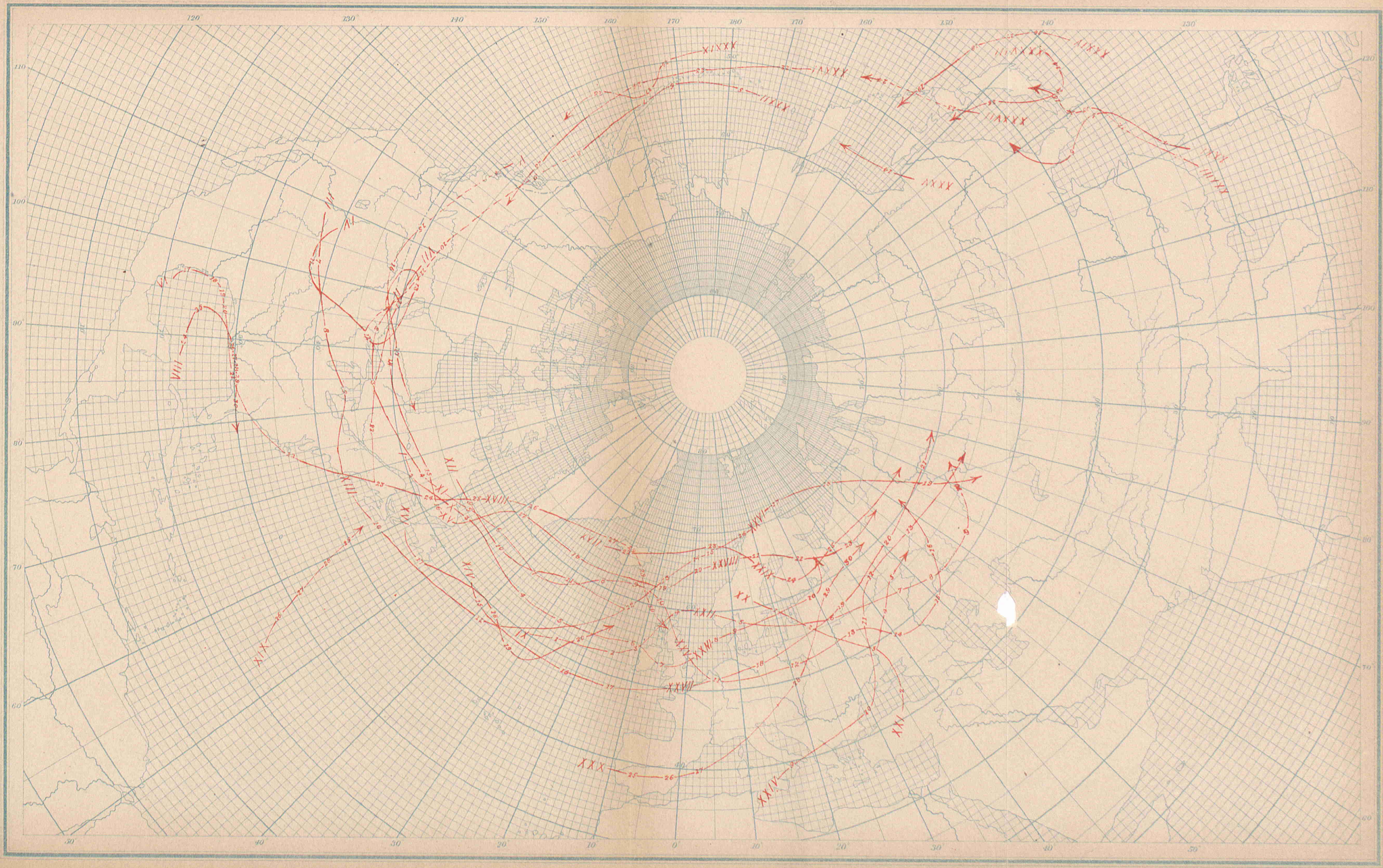


UNITED STATES OF AMERICA.

By Order of the Secretary of War:
W.B.Hazen, Chief Signal Officer.

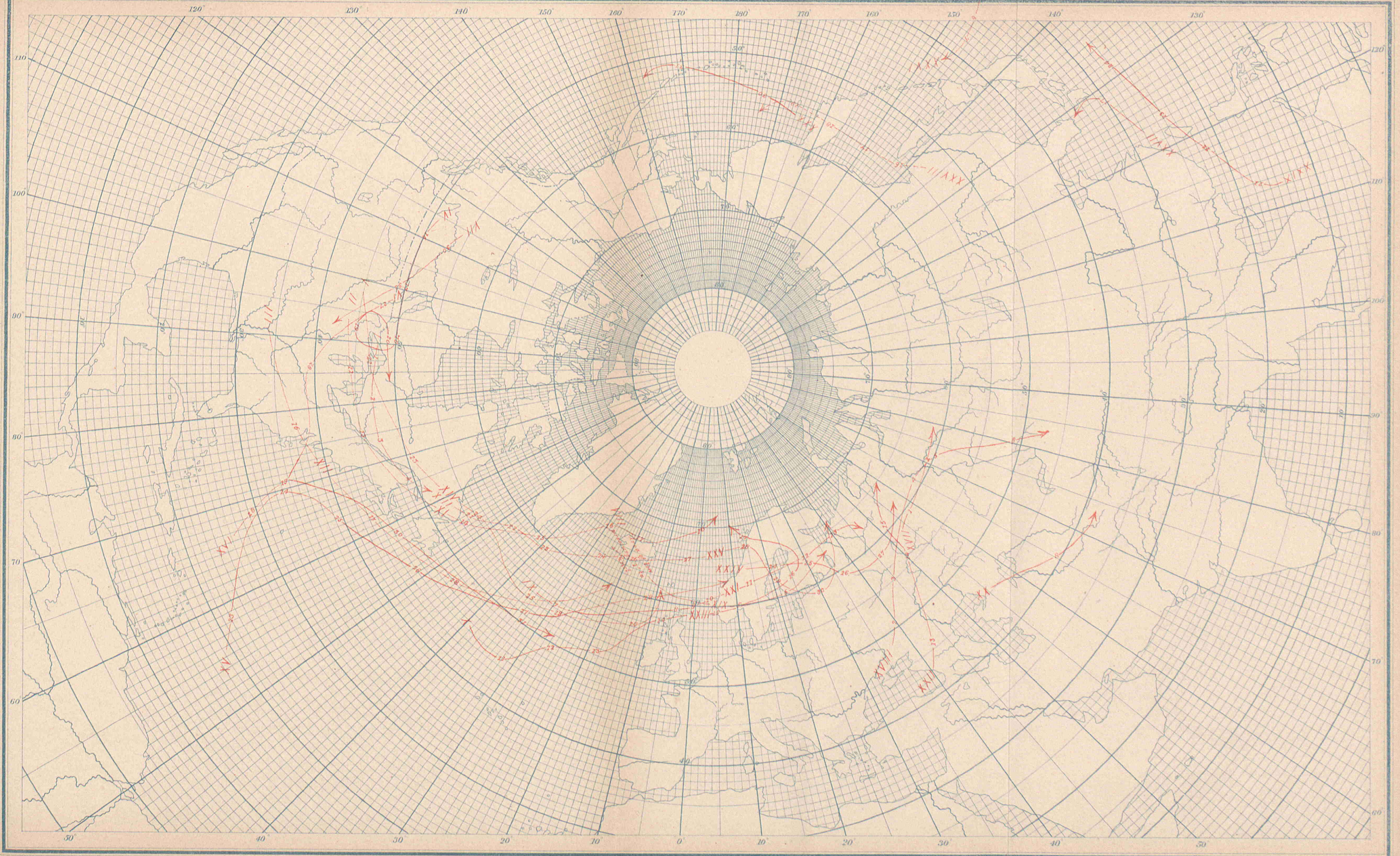
Signal Office Lith.

International Chart III. September, 1885. Tracks of Areas of Low Pressure.



Signal Office Lith.

International Chart III. August, 1883. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September, 1885—Continued.

	Name of vessel.	Captain.
	MISCELLANEOUS—Continued.	
Br.	s. s. Lord O'Neil	Capt. James Dunn.
Am.	Lorenzo D. Baker	W. F. Wiley.
Br.	Matthew Bedlington	Thos. Kirby.
	Menzaleh	J. B. McKie.
	Monte Rosa	W. T. Irving.
	Phœnix	B. Davies.
	Prydain	Moses Parry.
Ger.	Raiatea	J. Viereck.
Br.	Rydal Water	H. Gallieghan.
	Strathleven	C. W. Pearson.
Span.	Valentia	M. Santamarina.
	N. Y. HERALD WEATHER SERVICE.	
Am.	s. s. Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell
	Ailsa	J. W. Samsom.
	Albano	H. R. Hughes.
	Alene	E. J. Selders.
	Alvo	D. Williams.
	Aurania	W. H. P. Hains.
	Baltic	R. E. Bence.
Belg.	Belgenland	W. A. Beynon.
Br.	Bothnia	Thos. Rohers.
	Britannic	H. Perry.
Am.	Caracas	W. M. Hopkins.
Br.	Celtic	Benj. Gleadell.
Am.	Chalmette	Robert B. Quick.
	City of Alexandria	J. W. Reynolds.
Br.	City of Berlin	Francis S. Land.
	City of Chicago	Fred. Watkins.
	City of Chester	H. Condron.
Am.	City of Puebla	John Deakin.
Br.	City of Richmond	A. W. Lewis.
Am.	Colon	Chas. C. Lima.
	Crescent City	Jas. L. Lockwood.
Ger.	Elder	H. Helmers.
Br.	Elysia	James Brown.
Ger.	Ems	W. Willigerod.
Br.	Gallia	M. Murphy.
Dan.	Geiser	F. V. Schierbeck.
Ger.	Lessing	B. Voss.
Dtch.	P. Caland	T. H. Bonjer.
Belg.	Pennland	R. Weyer.
Br.	Republic	P. J. Irving.
Belg.	Rhynland	J. C. Jamison.
Am.	San Marcos	Ch. off. A. B. Connor.
	Saratoga	Capt. John McIntosh.
Dtch.	Schiedam	G. Bakker.
Br.	Servia	W. McMickan.
Fr.	St. Laurent	M. de Jousselin.
Br.	State of Georgia	G. Moodie.
Belg.	Switzerland	H. Buschmann.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Waesland	J. Ueberweg.
	Westernland	Com. W. G. Randle.
Br.	Wisconsin	Capt. Edw. Bentley.
	Wyoming	C. L. Rigby.
Dtch.	Zaandam	A. Potjer.
	SAILING VESSELS.	
Am.	bg. Abbie Clifford	D. W. Storer.
	schr. Abbie H. Gheen	W. W. Gheen.
Br.	bg. Achsah	Alfred M. Shaw.
	bk. Ada Peard	N. Hocken.
It.	Agostino Bombo	Vincenzo Bosso.
Ger.	sp. Agra	A. Högemann.
Am.	bg. Arcot	J. W. Cates.
	bk. Antonio Sala	Ch. Off. W. Shaw.

	Name of vessel.	Captain.
	SAILING VESSELS—Continued.	
Nor.	bk. Artemis	Capt. E. E. Moe.
Am.	Auburndale	J. W. Bowden.
Ger.	sp. Baltimore	N. Freese.
	bk. Betty	S. Wohlmuth.
Br.	sp. Chas. S. Whitney	Geo. D. Spicer.
	bk. Childwall	T. O. Watson.
	bkt. Corisande	Daniel Thoms.
It.	bk. Creola	Egidio Gibelli.
Ger.	Diamant	L. Huesloop.
	bg. Doctor Lasker	H. Buschenhenke.
Am.	schr. Emily Shepard	E. Coggins.
	Ettie H. Lister	Smith D. Mason.
	Florence Rogers	J. S. F. McLeod.
Ger.	bk. Freiheit	H. Spieska
Dan.	Galeon	H. H. Kalsboll.
Br.	George	W. H. Champlain.
Ger.	George Washington	J. Probst, jr.
	Godeffroy	C. H. Sinnig.
Am.	schr. Governor Hall	John Cain, jr.
Nor.	bk. Grundloven	O. G. Ellingsen.
Br.	bg. Harry & Aubrey	J. N. Tedford.
Ger.	bk. Heinrich & Tonie	L. Myer.
Br.	sp. Hermon	F. N. Marvin.
Am.	bk. Idaho	W. S. Richardson.
Br.	Iodine	Adam Smith.
	sp. Iolanthe	Geo. Scott.
Am.	schr. James H. Gordon	W. Lawrence.
Br	bg. Kenilworth	P. Doig.
	bk. Kryolith	W. C. Stephen.
Am.	bg. L. F. Munson	Jas. A. Smith.
	bk. Leocadia	John Stohff.
Am	bkt. Levanter	A. S. Vesper.
Br.	bg. Lilian	H. F. Schive.
Am.	schr. Louisa A. Orr	W. T. Bernard.
Nor.	bk. Lovspring	G. Thomsen.
Am.	sp. Lucy A. Nickels	Ch. Off. W. Oates.
Br.	bkt. Lydia	Capt. Geo. Lowery.
Am.	schr. Maggie Abbott	D. C. McIntosh.
	sp. Mary L. Stone	G. J. Josselyn.
	schr. M. B. Millan	F. H. Dyer.
Br.	bk. Mistletoe	Israel L. Dunlap.
Am.	Mohican	B. F. Berry.
	schr. Nelson Bartlett	Samuel Watts.
	bkt. Payson Tucker	Charles Brown.
	bg. Raven	M. Nash.
	sp. Rembrandt	J. W. McGilvery.
Br.	bk. River Ganges	Thos. Naile.
Am.	Samuel B. Hale	A. S. Haven.
	bk. Sarah Doe	B. S. Merryman.
	schr. Sarah D. J. Rawson	Thos. D. French.
Br.	bk. Sodium	Alex. Wilson.
	sp. St. David	W. W. Frost.
	schr. Stephen Bennett	William Douglas.
Br.	bk. Strathmuir	A. W. Flemming.
Am.	Templar	R. Roberts.
	Tillie Baker	J. H. Carty.
Nor.	bk. Tros	Severin Brager.
Br.	sp. Tsernogora	A. Cann.
	bk. Tuck Sing	G. N. Ryder.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	Western Chief	F. Sander.
Br.	Winifred	N. P. Dutton.
	sp. Winifred	R. McDonald.
	BRITISH NAVAL.	
	H. M. S. Alexandra	Rawson, C. B.
	H. M. S. Audacious	H. L. Pearson.
	H. M. S. Agamemnon	S. Long.

Name of vessel.	Captain.
BRITISH NAVAL—Continued.	
H. M. S. Briton	Capt. R. M. Lloyd.
H. M. S. Bacchante	A. W. Moore.
H. M. S. Cleopatra	H. N. Hippisley.
H. M. S. Champion	A. T. Powlett.
H. M. S. Constance	F. P. Doughty.
H. M. S. Dolphin	S. M. E. Wilmot.
H. M. S. Dart	A. M. Field.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Garnet	H. H. Boys.
H. M. S. Himalaya	Palliser.
H. M. S. Heroine	Blackburn.
H. M. S. Lark	T. F. Pullen.
H. M. S. Lily	Gibson.
H. M. S. Mutine	F. Edwards.
H. M. S. Mariner	Com. J. Durnford.
H. M. S. Nelson	A. Lake.
H. M. S. Orontes	C. B Theobald.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson.
H. M. S. Rambler	Hon. F. C. P. Vereker
H. M. S. Racer	E. Oldham.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Sappho	W. F. Castle.
H. M. S. Swiftsure	T. S. Brand.
H. M. S. Turquoise	R. Woodward.
H. M. S. Woodlark	W. R. Clutterbuck.
PORTUGUESE NAVAL.	
H. P. M. S. Temega	José d'Almeida d'Avila.
H. P. M. S. Estepharma	F. du Costa Cabral.
DUTCH NAVAL.	
Bromo	
Leeuwarden	
Prins Hendrick der Nederlander	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Enterprise	A. S. Barker.
U. S. S. Galena	Jas. G. Green.
U. S. S. Hartford	
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	W. R. Bridgman.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Mohican	B. F. Day.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	C. H. Davis.
U. S. S. Quinnebang	N. Ludlow.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	G. C. Wiltse.
U. S. S. Tennessee	O. F. Stanton.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Yantic	F. Wildes.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September. 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	C. L. Wragge.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E
Falmouth, Observatory	The Staff.
Fort Napier, Natal	C. S. Way, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Jas. R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHILIAN.	
Coquimbo	Samuel Redolez.
Iquique	Ignacio Ayala.
Niebla	Federico Köhling.
Punta Caldera	Manuel Tobar.
Punta Corona	Rafael Moreno.
Quiriquina	Leon Herrera.
Valparaiso	Julian Casho.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. J. Sion, Director.
Avignon, Normal School	M. Giraud, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. L. Jarach.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Allnard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Valssade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. A. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Finot, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Allnard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Silsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monto.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Naples	Prof. F. Brioschi.
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.

Stations.	Observers.
JAPANESE—*Continued.*	
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Nilgata	T. Sato.
Numadzu	T. Ohgi
Osaka	H. Onura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	Prof. P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjesvar	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
San Salvador, Congo	
Serra da Estrella	
ROUMANIAN.	
Bucharest	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Ssellwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Koslov	
Igov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hugen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Angel de Uralde.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanneva, Director.
Sub-series.	
Havana, Cuba	Benito Vifies, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF OCTOBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
DECEMBER, 1886.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Circassian	Capt. Wm. Richardson.
Grecian	C. E. Le Gallais.
Manitoban	R. Carruthers.
Prussian	Alex. McDougall.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Prince	Samuel Nowell.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Lord Gough	E. M. Hughes.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
Circassian	A. Campbell.
City of Rome	R. D. Munro.
Columbia	R. T. Garvie.
Devonia	Hugh Young.
Furnesia	J. Hedderwick.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Critic	W. R. Lord.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Albano	H. R. Hughes.
Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CANADA SHIPPING Co.	
Br. s. s. Lake Nepigon	M. L. Tranmar.
CROMWELL LINE.	
Am. s. s. Louisiana	E. N. Gager.
Hudson	H. R. Freeman.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
Europa	L. A. Kessal.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Neustria	P. Verriérs.
FURNESS LINE.	
Br. s. s. Albania	W. Malloney.
Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
Canada	G. de Korsabiec.
St. Germain	M. de Jousselin.
Labrador	P. dé Hauterive.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offl. W. H. Bates.
Warwick	Capt. P. F. Lobbett.
GUION LINE.	
Br. s. s. Abyssinia	J. Price, R. N. R.
Arizona	Saml. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Frisia	E. Kopff.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con.	
Ger. s. s. Hammonia	Capt H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	H. Barends.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Author	Robert Buddle.
Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Euclid	Alex. W. Pym.
Hevelius	John Carroll.
Belg. Hipparchus	William Kelly.
Br. Olbers	Jas Clark.
Br. s. s. Lassell	Robert Graham.
Plato	John P. Bevis.
Ptolemy	W. P. Ballantine.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Colorado	Jas. Daniels.
Lampasas	M. B. Crowell.
Rio Grande	Jas. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
El Dorado	J. W. Hawthorne.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Erin	John Robinson.
Helvetia	John Milligan.
Holland	Wm. Tyson.
Spain	J. Sumner.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
Gottardo	G. Dilliberto.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	R. Ringk.
Hohenzollern	A. Meier.
Main	H. Christoffers.

Name of vessel.	Captain.
NORTH GERMAN LLOYD—Con.	
Ger. s. s. Neckar	Capt. F. Pfeiffer.
Nürnberg	A. Jaeger.
Saller	C. Wiegand.
Werra	R. Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattachoochee	J. W. Catherine.
City of Augusta	K. S. Nickerson.
Nacoochee	Ch. Offl. C. G. S. Burg.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	Capt. H. G. Morse.
Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.
Santa Rosa	Chas. B. Johnson.
PACIFIC MAIL STEAMSHIP Co.	
Br. s. s. Australia	C. C. Brough.
Acapulco	W. G. Shackford.
City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Pekin	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	J. M. Caverly.
San Blas	T. Chapman.
San Jose	A. D. Austin.
Zealandia	Henry Webber.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Bermuda	R. Fraser.
Muriel	G. S. Locke.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess.
Valencia	W. Woodrick.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickols.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sllerendregt.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. v. d. Zee.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch. s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nevada	John A. Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geiser	F. V. Schierbeck.
Hekla	A. G. Thomsen.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
Finance	Ch. Off. James Lord
Merrimack	Capt. W. L. Beers.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

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FOR THE MONTH OF OCTOBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
DECEMBER, 1886.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, OCTOBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.														
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																									
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.00	762.0	30.13	765.3	60.4	15.8	64	1	.....	1	6	6	5	5	3	4	7217	11614	5	1.11	28.2
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.82	757.4	30.01	762.2	51.2	10.7	84	2	2	3	11	5	5	.....	3	.....	.....	.....	6	1.39	35.3
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.03	762.7	30.11	764.8	54.9	12.7	60	3	1	3	5	7	7	2	2	1	.....	.....	6	2.00	50.8
Austrian.																											
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.34	745.2	29.88	759.0	56.8	13.8	72	1	2	.....	4	10	4	3	6	1	.....	.....	7	5.44	138.2
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.07	738.4	29.84	758.0	55.2	12.9	67	1	1	10	7	2	2	6	2	.....	.....	.....	7	1.29	32.8
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	28.98	736.0	29.86	758.4	50.4	10.2	82	5	.....	.....	.....	14	.....	.....	.....	12	.....	.....	7	2.44	62.1
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.61	726.8	29.86	758.4	54.0	12.2	75	.....	2	5	9	12	1	2	.....	.....	.....	.....	6	3.60	91.3
Hermannstadt	N. 45 47	E. 24 13	1.37 p.m.	1352	412	28.45	722.6	29.86	758.5	61.7	16.5	60	2	4	4	1	9	9	2	.....	.....	.....	.....	6	3.16	80.2
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.47	723.1	29.82	757.5	50.0	10.0	84	.....	1	13	.....	.....	.....	1	7	2	.....	.....	6	2.64	67.1
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.87	733.4	29.86	758.5	56.1	13 4	70	2	3	6	7	5	7	1	.....	.....	.....	.....	6	4.07	103.4
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.74	755 5	29.86	758.4	61.3	16.3	71	.....	2	10	2	4	3	5	4	1	.....	.....	6	4.37	111.0
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.42	747.2	29.91	759.8	60.4	15.8	65	4	.....	7	.....	10	8	2	.....	.....	.....	.....	5	4.63	117.5
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.56a	750.9a	29.85a	758 1a	60.8	16.0	70	a1	2	3	1	10	7	.....	2	1	.....	.....	a7	2.61	66.2
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.78	756 5	29.88	759.0	60.1	15.6	74	1	4	6	8	.....	3	5	3	1	.....	.....	6	11.82	300.1
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.13	740.0	29.85	758.3	54.7	12.6	67	.....	4	8	1	4	9	3	1	1	.....	.....	6	1.46	37.0
Brazilian.																											
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.88	759 0	30.06	763 5	72.5	22.5	74	5	2	.....	1	.....	7	.....	4	12	.....	.....	7	3.97	100.8
British.																											
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.57	751.1	29.70	754.4	46.4	8.0	68	3	10	6	4	4	2	1	1	.....	10412	16756	6	2.35	59.7
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.75	755.6	47.7	8.7	76	2	5	8	6	.....	2	3	5	.....	.....	.....	8	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.15	740.4	29.69	754.1	46.1	7.8	76	5	4	5	7	1	1	3	5	.....	.....	.....	9	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.28	743.7	29.70	754.4	47.8	8.8	72	5	8	7	1	.....	2	.....	8	.....	.....	.....	8	3.60	91.4
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.97	761.2	29.93	760.2	85.5	29.7	68	2	.....	.....	.....	.....	.....	1	28	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.55	750.6	29.75	755.6	49.1	9.5	76	2	1	.....	.....	4	1	2	1	20	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.60	751.8	29.80	756.9	51.2	10.7	77	4	8	7	5	1	2	1	3	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.76	705.1	29.92	760.0	76.4	24.7	49	5	3	.....	2	5	4	7	5	.....	.....	.....	4	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.63	752.6	29.78	756.4	81.1	27.3	91	10	3	4	2	4	4	4	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.73	755.1	29.79	756.7	49.7	9.8	82	2	5	8	4	2	1	2	7	.....	.....	.....	7	4.95	125.7
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.02	762.5	30.04	763.0	64.0	17.8	92	1	17	1	4	.....	.....	2	6	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.53	750.0	29.72	754.9	50.3	10.2	73	6	3	6	8	1	2	4	1	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.49	749.0	29.80	756.9	52.0	11.1	80	2	8	6	7	.....	4	1	3	.....	9220	14838	7	6.21	157.7
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.68	753.9	29.74	755 4	49.5	9.7	70	4	5	8	5	2	2	4	1	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.43	747.5	29.70	754.4	49.5	9.7	74	7	3	2	12	1	2	.....	4	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	.....	.....	.....	.....	72.8	22.7	72	.....	11	7	7	2	1	1	2	.....	.....	.....	4	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.92	760.0	29.92	760.0	78.8	26.0	75	1	3	1	5	2	3	6	10	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.49	749.0	29.74	755.4	49.6	9.8	74	2	8	4	8	.....	3	1	3	2	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.69	754.1	29.77	756.1	51.9	11.1	79	2	9	4	5	1	2	2	5	1	.....	.....	7	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.55	750.6	29.73	755 1	42.8	6.0	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.89	759.2	29.94	760.5	71.5	21.9	59	5	.....	.....	11	2	1	1	8	3	.....	.....	5	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.74	755.4	47.1	8.4	74	5	4	9	3	.....	2	3	5	.....	.....	.....	9	5.72	145.3
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.83	757 7	29.88	758.9	50.8	10.4	75	10	6	7	2	2	.....	2	2	.....	.....	.....	8	.....	.....
Sub-series.																											
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.63	752.6	29.98	761.5	72.3	22.4	62	.....	10	7	8	1	3	2	.....	.....	4744	7636	6	0.84	21.3
Canadian.																											
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	30.02	762.5	30.07	763.8	41.5	5.3	.....	2	1	4	3	6	.....	7	1	6	.....	.....	7	3.85	97.8
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	30.00	762 0	30.04	763 0	45.5	7.5	87	3	7	4	1	2	7	.....	4	3	e4251	e6841	8	5.32	135.1
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.98	761.5	30.04	763.0	39.5	4.2	88	1	2	7	6	6	1	1	6	1	3723	5991	6	4.58	116.3
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.77	756 2	29.97	761.2	40.8	4.9	89	1	3	5	8	1	1	9	3	.....	.....	.....	7	4.22	107.2
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.96	761.0	30.02	762.5	42.6	5.9	.....	.....	.....	.....	9	.....	1	1	3	.....	5	.....	7	1.22	31.0
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.99	761.7	30.02	762.5	37.7	3.2	86	3	1	6	7	4	1	3	4	2	.....	.....	7	2.50	63.5
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.14	740.1	30.01	762.2	31.0	— 0.6	88	3	7	4	.....	4	5	3	3	2	7763	12493	7	0.73	18.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.91	759.7	30.09	764.3	42.5	5.8	84	4	7	1	3	5	3	4	3	1	5019	8077	6	4.08	103.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.99	701.7	30.05	763 3	46.7	8.2	86	5	1	2	3	5	2	2	5	6	7837	12612	4	5.34	135.6
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.87	733 3	29.99	761.7	40.3	4.6	99	1	1	1	1	.....	3	1	22	2033	3272	6	3.24	82.3
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.93	760 2	30.07	763.8	45.7	7.6	96	9	4	8	1	6	.....	.....	3	.....	.....	.....	4	0.29	159.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.64	752.9	30.06	763.5	42.8	6.0	92	2	1	4	12	3	2	2	5	.....	.....	.....	6	4.79	121.7
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.67	753.6	30.01	762.2	43.3	6.3	85	3	2	7	.....	5	2	.....	11	1	4053	7488	7	4.18	106.2
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.98b	761.5b	30.02b	762.5b	b48.7	b9.3	b87	a2	.....	2	3	8	1	5	6	3	.....	.....	a8	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.08	738.6	30.00	762 0	39.9	4.4	91	3	.....	.....	1	1	.....	2	.....	24	1727	2779	7	3.36	85.3
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.68	703.1	30.01	762.2	36.3	2.4	69	.....	2	1	6	1	.....	1	1	19	.....	.....	3	0.10	2.5
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.10	713.7	30.01	762 2	28.4	— 2.0	92	2	9	3	1	.....	2	7	4	3	7545	12142	6	0.61	15.5
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.81	757 2	30.03	762.7	41.4	5.2	81	7	.....	7	7	4	1	.....	5	.....	.....	.....	6	7.47	189.7
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.77	756.2	30.02	762.5	38.9	3.8	92	6	2	8	.....	1	2	9	3	.....	4361	7018	7	3.19	81.0
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.28	743.7	29.99	761.7	40.1	4.5	89	9	.....	.....	1	3	13	4	1	.....	7290	11731	8	2.60	66.0
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	41.1	5.1	88	.....	3	.....	3	.....	3	1	8	13	.....	.....	6	2.66	67.6
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.26	743.2	30.00	762.0	32.6	0.3	88	4	5	.....	1	.....	.....	1	3	17	2847	4582	6	0.37	9.4
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.29	744.0	29.96	761.0	43.1	6.2	99	7	2	3	.....	6	.....	.....	5	8	4155	6687	7	3.13	79.5
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.33	745 0	29.98	761.5	41.3	5.2	91	5	3	9	1	.....	6	6	1	.....	.....	.....	5	5.11	129.8
Qu'Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.69	703.3	30.05	763.3	29.5	— 1.4	82	.....	5	1	6	3	3	3	1	9	.....	.....	5	0.72	18.3
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.67	753.6	30.03	762.7	38.8	3.8	96	.....	2	10	1	3	.....	2	10	3	.....	.....	7	4.58	116.3
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.55	750.6	30.02	762.5	37.5	3.1	84	1	3	6	.....	1	4	6	1	9	.....	.....	6	1.24	31.5
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.96	761.0	30.01	762.2	43.5	6.4	88	3	7	1	1	4	2	1	6	1	.....	.....	4	3.89	98.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.94	760.5	30.07	763.8	43.6	6.4	88	8	7	.....	2	6	1	3	2	2	.....	.....	6	5.00	127.0
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.01	762.3	48.0	8.9	.....	2	4	2	7	3	8	1	3	1	.....	.....	.....	16.56	419 2
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.25	742 9	29.97	761.2	41.8	5.4	87	2	2	5	3	6	2	2	3	6	6871	10913	6	2.96	75.2
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.74	730.0	30.05	763.3	39.9	4.4	91	3	1	1	2	4	1	3	4	12	2981	4797	6	4.33	110.0
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.99	761.7	30.05	763.3	46.7	8.2	88	5	3	1	6	3	5	1	6	1	6734	10837	8	6.19	157.2
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.62	752.3	30.01	762.2	42.1	5.6	88	1	7	5	3	2	1	4	7	1	6800	10943	6	3.79	96.3
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.93	734.8	30.02	762 5	39.9	4.4	91	1	2	2	6	3	1	3	4	9	.....	.....	6	5.49	139.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.98	761.5	30.07	763.8	47.3	8.5	91	4	1	1	2	3	3	7	4	6	.....	.....	3	3.20	81.3
Sub-series.																											
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.91	759.7	30.09	764.3	47.7	8.7	89	.....	4	1	2	6	11	.....	7	.....	.....	.....	5	6.30	160.0
Cape Colony																											
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.07	763.8	30.07	763.8	64 6	18.1	92	.....	.....	9	6	3	3	6	.....	4	.....	.....	2	0.81	20.6
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.03	762.7	.....	.....	70.1	21.2	48	1	2	5	2	.....	7	.....	1	13	.....	.....	3	0.95	24.1
Springboke	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.96	684.8	.....	.....	75.4	24.1	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.42	10.7
Chinese.																											
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.92	760.0	29.97	761.2	74.8	23.8	73	4	....	2	.....	1	2	12	10	.....	.....	.....	4	2.51	63.8
Sub-Series.																											
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.10	764.4	30.08	763.9	61.2	16.2	88	6	5	.....	3	5	3	6	3	.....	.....	.....	5	1.27	32.3
Danish.																											
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.60	751 9	29.68	753.9	47.3	8.5	83	2	4	1	6	10	2	.....	6	.....	.....	.....	8	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.59	751.5	29.64	752.8	47.7	8.7	79	2	2	6	7	3	4	3	4	.....	.....	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
DANISH—Con.	° ′	° ′																										
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.79	756.6	29.85	758.1	33.4	0.8	.....	3	1	.....	1	.....	6	.....	.....	20	.....	.....		8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.73	755 1	29.82	757.5	37.0	2.8	82	3	1	1	.....	2	4	11	5	4	.....	.....		8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.62	752.3	29.69	754 2	42.6	5.9	76	12	.....	3	2	1	6	1	4	2	.....	.....		7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.51	749.5	29.63	752.7	45.9	7.7	80	.....	2	3	6	1	4	4	9	2	.....	.....		6	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.32	744.6	29.97	761.3	54.0	12.2	79	.....	10	4	3	3	6	.....	.....	5	.....	.....		7	2.63	66.7
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.30	744.2	29.82	757.3	52.0	11.1	78	4	2	1	12	8	.....	.....	4	.....	.....	.....		.....	4.20	106.7
Arras	N 50 18	E. 2 46	0.11 p m	223	68	29.52	749.8	29.78	756.3	49.5	9.7	74	.....	11	5	6	4	1	1	3	.....	.....	.....		6	5.65	143.6
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.81	757.1	29.89	759.1	59.7	15.4	66	15	.....	1	5	6	2	1	1	.....	.....	.....		.....	4.90	124.5
Bar-sur-Seine *b*	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.27	743.4	29.84	757.9	51.1	10.6	78	.....	5	.....	7	10	2	2	3	.....	.....	.....		8	5.22	132.5
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	29.43	747.5	29.74	755.5	53.2	11.8	75	9	4	7	4	7	.....	.....	.....	.....	.....	.....		.....	3.68	93.5
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	28.90	734.0	29.78	756.5	54.0	12.3	73	2	.....	2	4	18	.....	3	2	.....	.....	.....		.....	5.11	129.9
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.65	753.2	29.91	759.8	56.1	13.4	73	1	5	7	8	4	5	1	.....	.....	.....	.....		7	4.69	119.1
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.33	744.9	29.87	758.6	53.4	11.9	78	3	3	8	4	1	3	7	2	.....	.....	.....		.....	6.94	176.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.63	752.5	29.88	759 0	56.3	13.5	80	7	2	10	5	1	2	1	3	.....	.....	.....		6	4.85	123.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.72	754 8	29.80	757.0	52.7	11.5	88	2	9	4	14	1	1	.....	.....	.....	.....	.....		5	4.76	120.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.45	748.0	29.78	756 4	51.1	10.6	81	2	2	3	8	15	.....	.....	1	.....	.....	.....		7	3.53	89.6
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.20	741.7	29.75	755.7	49.8	9.9	76	.....	.....	4	9	18	.....	.....	.....	.....	.....	.....		8	0.91	175.6
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.50	723 9	29.85	758.2	53.4	11.9	58	3	6	11	5	2	1	2	1	.....	.....	.....		8	3.45	87.6
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.01	736.9	29.80	758.4	52.3	11.3	73	.....	6	10	4	4	4	....	3	.....	.....	.....		8	7.64	194.0
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	28.98	736.0	29.85	758.3	49.1	9.5	90	2	3	11	8	3	2	1	1	.....	.....	.....		5	8.58	217.8
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.39	695.8	29.93	760.1	50.2	10.1	72	4	1	.....	.....	.....	.....	.....	.....	26	.....	.....		5*g*	0.22	157.9
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.76	730.5	29.88	758.9	57.4	14.1	61	1	.....	.....	.....	.....	14	9	7	.....	.....	.....		5	6.63	168.3
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.23	742.4	29.99	761.7	52.5	11.4	74	2	10	8	3	2	.....	2	2	2	.....	.....		.....	6.66	169.1
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.31	719 1	29.92	760.0	47.5	8.6	85	1	2	7	15	1	.....	.....	.....	5	.....	.....		.....	3.74	95.0
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.60	751.7	29.88	759.0	57.4	14.1	87	4	1	9	2	3	4	1	7	.....	.....	.....		6	5.19	131.9
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.33	745.0	29.91	759.6	58.6	14.8	71	1	1	8	15	3	2	.....	1	.....	.....	.....		.....	7.17	182.2
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.76	755.8	29.87	758.7	56.1	13.4	77	4	3	10	7	2	3	.....	2	.....	.....	.....		7	3.54	89.9
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28 82	732.0	29.88	758.9	52.3	11.3	66	3	4	4	.....	12	1	5	2	.....	.....	.....		9	4.91	124.7
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.52	749 8	29.83	757 6	51.4	10.8	59	4	5	4	6	1	1	7	3	.....	.....	.....		7	4.54	115.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.61	752.1	29.87	758.8	59.9	15.5	65	.....	7	12	3	2	2	2	3	.....	.....	.....		.....	5.05	143.5
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.76	629.0	29.61	752.0	44.2	6.8	57	2	4	10	10	.....	1	2	2	.....	.....	.....		6	4.19	106.4
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.75	755.7	29.89	759.2	60.1	15.6	73	7	8	6	2	2	3	2	1	.....	.....	.....		4	3.07	77.9
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.69	601.7	.....	.....	.....	.....	.....	3	8	4	1	9	6	.....	.....	.....	.....	.....		.....	8.11	206.0
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.03	737.4	29.83	757.7	49.1	9.5	78	1	9	1	11	6	.....	.....	3	.....	.....	.....		.....	6.00	152.3
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.72	755 0	29.89	759.1	55.8	13.2	66	3	5	11	3	4	2	1	2	.....	.....	.....		7	5.67	144.0
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.76	755.9	29.82	757 5	65.8	18.8	77	2	.....	4	.....	5	.....	9	4	7	.....	.....		5	0.91	175.4
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.81	757.2	29.92	760 0	60.8	16.0	55	0	11	.....	1	1	4	4	1	3	.....	.....		6	0.83	21.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.08	535.5	.....	.....	27.7	— 2.4	.....	....	8	6	7	1	.....	2	1	6	.....	.....		5	10.84	275.2
Privas. [mit.]	N. 44 45	E. 4 36	0.18 p.m.	997	304	28 84	732.4	29.89	759.1	53.1	11.7	72	19	.....	1	.....	9	.....	1	1	.....	.....	.....		.....	2.81	71.3
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	24.95	633 6	.....	.....	34.3	1.3	95	.....	4	11	10	2	2	1	1	.....	.....	.....		8	8.00	203.1
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.85	758.1	29.88	758.9	57.2	14.0	76	2	6	16	2	1	3	.....	1	.....	.....	.....		7	7.15	181.5
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.60	751.7	29.88	758.9	55.8	13.2	72	4	9	7	5	2	2	1	1	.....	.....	.....		6	6.80	172.6
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.81	706.3	29.98	761.4	50.2	10.1	74	20	11	.....	.....	.....	.....	.....	.....	.....	.....	.....		.....	6.07	154.1
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.73	755.2	29.78	756.4	53.2	11.8	76	2	7	6	8	3	2	2	1	.....	.....	.....		6	0.31	100.2
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.64	752.9	29.81	757.1	52.0	11.1	72	4	3	7	7	8	2	.....	.....	.....	.....	.....		8	4.27	108.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.20	743 1	29.98	701.4	56.7	13.7	74	2	8	10	2	1	8	.....	.....	.....	.....	.....		7	3.81	96.8
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.66	753.4	29.84	757.9	55.0	12.8	70	4	2	2	11	8	1	1	2	.....	.....	.....		.....	4.77	121.2
Sub-Series.																												
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.83	757.7	29.98	761 5	58.1	14.5	68	3	3	11	9	2	.....	3	.....	.....	.....	.....		7	9.08	230.6
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.35	720.2	29.80	756.8	50.5	10.3	56	1	.....	5	15	1	2	1	2	4	.....	.....		7	2.29	58.2
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	28.99	736.4	29.77	756.2	51.8	11.0	71	2	2	6	5	12	2	2	.....	.....	.....	.....		8	2.30	59.9
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.61	752.0	29.77	756.1	51.4	10.8	63	1	2	8	15	1	.....	3	1	.....	.....	.....		7	3.01	76.5
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.29	743.9	29.84	757.8	52.9	11.6	65	1	3	9	4	4	6	2	.....	2	.....	.....		8	1.40	37.1
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.37	746.0	29.84	757.8	52.2	11.2	76	1	1	.....	23	2	2	.....	2	.....	.....	.....		8	7.05	179.0
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.02	737.0	29.75	755.7	48.7	9.3	73	4	.....	3	10	11	1	1	1	.....	.....	.....		7	3.50	90.3
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.39	746.6	29.82	757.4	51.6	10.9	74	1	1	3	16	5	1	1	2	1	.....	.....		9	4.06	103.1
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.42	721.8	29.83	757.7	51.4	10.8	75	1	2	5	11	6	.....	1	5	.....	.....	.....		7	5.45	138.4
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.60	751.8	29.71	754 5	48.9	9.4	80	2	1	1	15	5	1	3	3	.....	.....	.....		9	3.58	91
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.63	752.5	29.67	753.5	48.6	9.2	78	2	.....	4	11	5	1	3	5	.....	.....	.....		9	4.78	121.4
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.34	745.3	29.78	756.4	50.9	10.5	75	.....	3	3	9	11	2	1	2	.....	.....	.....		8	2.53	64.2
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.53	750 1	29.74	755.4	50.7	10.4	76	.....	5	4	8	7	3	3	1	.....	.....	.....		8	2.04	51.7
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.71	754 7	29.79	756.7	48.4	9.1	86	2	4	6	7	4	3	2	3	.....	.....	.....		9	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.00	711.1	29.86	758.4	51.1	10.6	66	....	6	6	3	1	6	2	4	3	.....	.....		7	3.15	80.0
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.69	754.0	29.74	755.5	50.4	10.2	80	3	.....	8	2	12	4	2	.....	4	.....	.....		8	2.44	01.9
Neustadt *a*	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.26	743.2	29.80	756.8	50.9	10.5	80	2	.....	5	10	9	.....	.....	4	.....	.....	.....		8	5.10	131.1
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	28.89	733.9	29.80	756.9	52.7	11.5	70	1	4	4	15	1	1	.....	4	1	.....	.....		8	2.60	66.0
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.65	753.2	29.71	754.5	48.2	9.0	80	1	1	2	10	8	5	2	2	.....	.....	.....		8	2.68	68.2
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.60	751 9	29.90	759.4	72.7	22.6	66	5	1	3	6	7	5	1	3	.....	.....	.....		5	1.82	46.3
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.79	756.8	29.79	756.7	85.7	29.8	61	.....	.....	13	17	1	.....	.....	.....	.....	.....	.....		0	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.37	745.9	29.78	756.3	92.8	33.8	26	3	3	6	3	9	5	1	1	.....	.....	.....		2	0.01	0.3
Bombay	N 18 54	E. 72 49	4.51 p.m.	37	11	29.81	757.2	29.79	756.6	84.4	29.1	73	4	15	3	2	4	1	.....	2	.....	.....	.....		4	3.58	90.9
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.00	711.3	29.77	756.2	82.6	28.1	51	4 *a*	4	5	5	2	2	1	7	.....	.....	.....		6	3.21	81.5
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.32	693.9	29.78	756 3	76.5	24.7	70	5	1	5	6	3	1	1	8	1	.....	.....		6	8.09	205.5
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.12	739.5	29.79	756.6	84.0	28.9	41	.....	1	3	.....	3	.....	2	.....	22	.....	.....		1	0	0
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.91	734.4	29.77	756.1	80.6	27.0	44	1	2	11	.....	.....	.....	1	.....	16	.....	.....		0	0.05	1.3
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.27	743.5	29.78	756.4	89.5	31.9	31	.....	9	16	5	.....	1	.....	.....	.....	.....	.....		1	0.03	0.8
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.80	731.5	29.77	756.0	86.4	30.2	43	1	.....	.....	2	6	2	5	2	13	.....	.....		5	1.08	27.4
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.50	723.8	29.78	756.3	85.2	29.6	41	4	2	1	.....	1	2	.....	3	18	.....	.....		2	0.14	3.6
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.47	748.6	29.80	756 9	81.1	27.3	58	10	3	1	.....	.....	.....	1	5	11	.....	.....		2	0.50	12.7
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.51	749.5	29.77	756.2	79.8	26.6	63	1	1	7	3	6	.....	.....	1	12	.....	.....		2	0.09	2.3
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.64	752.9	29.78	756.3	82.8	28.2	61	4	4	5	.....	.....	4	2	12	.....	.....	.....		1	1.09	27.7
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.84	707.2	29.79	756.6	77.5	25.3	56	3	8	2	3	3	1	2	.....	9	.....	.....		3	0.99	25.2
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.77	756 1	29.79	756.6	83.8	28.8	70	2	.....	2	1	7	1	1	1	13	.....	.....		6	2.28	57.9
Calcutta	N. 22 33	E. 88 21	5.53 p.m	21	6	29.82	757.5	29.79	756.7	80.2	26.8	80	0	3	5	4	2	4	3	1	3	.....	.....		4	5.29	134.4
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.72	751.9	29.79	756.7	79.7	26.5	78	.....	.....	.....	1	3	.....	.....	1	26	.....	.....		1	0.88	22.4
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.77	756.1	29.80	756.9	79.7	26.5	86	22	2	1	1	2	2	.....	1	.....	.....	.....		5	3.66	93.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.52	749.9	29.81	757.3	77.5	25.3	88	1	.....	.....	2	.....	2	5	20	1	.....	.....		6	0.53	165.9
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28,42	721.8	29.78	756.5	89.8	32.1	29	5	12	3	3	1	2	1	2	.....	.....	.....		3	0 01	0.3
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.33	719.6	29.71	754.7	82 8	28.2	58	3	4	2	2	1	7	6	6	.....	.....	.....		7	0.10	2.5
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.60	751.7	29.80	756.9	84.9	29.4	66	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		7	5.88	149.4
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.43	747.5	29.81	757.9	57.9	14.4	72	.....	.....	6	4	1	1	4	1	14	.....	.....		7	10.95	278.1
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.35	745.5	29.87	758 7	58.1	14.5	65	3	2	10	....	6	6	2	2	.....	.....	.....		7	4.46	113.2
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.75	755.7	29.86	758.4	59.4	15.2	68	5	6	1	4	1	.....	6	5	3	.....	.....		6	4.91	124.6
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	28.95	735.3	29.85	758.3	56.1	13.4	69	.....	.....	2	8	6	3	7	5	.....	.....	.....		5	4.44	112.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.65	753.c	29.84	757.9	62.8	17.1	62	3	5	2	9	6	6	.....	.....	.....	.....	.....		6	7.15	181.6
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.82	757.5	29.87	758.7	62.1	16.7	69	.....	1	.....	8	.....	8	4	10	.....	.....	.....		6	5.95	151.2
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.62	752.4	29.88	758.9	60.8	16.0	73	3	5	2	3	2	6	4	6	.....	.....	.....		7	3.90	99.0
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.80	756.8	29.88	758.9	63.1	17.3	68	.....	4	1	4	4	8	9	1	.....	.....	.....		7	7.92	201.2
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.71	754.7	29.89	759.1	66.2	19.0	69	.....	1	1	2	6	12	5	4	.....	.....	.....		7	4.61	117.0

RESULT OF SIMULTANEOUS OBSERVATIONS FOR OCTOBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity	Wind. Directions.								Wind. Total Movement.		Average Cloudiness.	Total Precipitation.	
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																							
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.06	738.1	29.94	760 4	66.2	19.0	61	.....	.....	.....	4	3	9	12	3	.....	.....	.....	6	8.29	210.5
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.71	754.5	29.95	760.8	72.1	22.3	61	.....	8	4	.....	1	6	7	4	1	.....	.....	6	5.02	127.4
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.92	760.0	29.97	761.1	72.9	22.7	63	.....	6	8	4	2	5	3	3	.....	.....	.....	6	1.13	28.6
Sub-Series.																									
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	21.99	558.5	.....	.....	30.6	— 0.8	76	.....	.....	12	10	1	1	3	4	.....	.....	.....	6	4.46	113.3
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.01	559.0	.....	.....	31.8	— 0.1	77	3	2	9	8	1	5	2	1	.....	.....	.....	7	9.55	242.5
JAPANESE.																									
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	30.02	762.4	30.04	763.0	53.5	12.0	88	1	.....	4	.....	1	.....	9	3	13	.....	.....	7	5.20	132.1
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	30.01	762.2	30.04	763.0	52.1	11.2	84	.....	.....	4	4	15	5	2	1	....	5057	8137	6	3.09	78.4
Hakodate	N 41 46	E.140 44	9.23 p.m.	10	3	30.03	762.7	30.03	762.7	51.2	10.7	86	10	4	4	.....	1	2	9	.....	1	9102	14047	5	5.07	129.7
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.93	760.1	30.00	762.0	62.0	16.7	84	.....	2	10	1	.....	1	11	6	.....	.....	.....	5	8.92	226.6
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.03	762.7	30.01	762.2	61.1	16.1	83	26	2	.....	.....	.....	.....	.....	3	.....	4207	6771	5	3.36	85.2
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.95	760.8	30.04	763.0	58.3	14.6	88	.....	.....	1	3	4	16	7	.....	.....	3959	6370	6	10.67	270.6
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.03	762.7	30.01	762.2	63.2	17.5	81	4	12	1	.....	.....	1	6	4	3	3326	5352	5	3.08	78.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.88	758.9	30.02	762 5	59.8	15.4	86	14	4	2	.....	.....	1	2	7	1	*2076	*3338	5	6.42	163.0
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.02	762.5	30.01	762.2	63.7	17.6	81	5	14	3	2	1	1	1	3	1	3954	6364	5	10.53	267.5
Miyaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.02	762.5	30.02	762.5	62.7	17.1	90	13	.....	5	.....	3	.....	8	.....	2	5791	9320	5	19 10	486.7
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.96	760 9	30.06	763.5	52.8	11.5	89	1	2	12	7	1	.....	2	1	5	1779	2864	6	10.89	276.5
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.84	758.0	30.01	762.2	62.3	16.8	73	7	4	2	.....	3	1	3	5	6	2966	4676	4	1.98	50.2
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	30.00	762.0	30.05	763 3	48.7	9.3	90	6	2	4	4	4	2	6	.....	3	4980	8014	5	7.81	198.1
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.01	762.3	30.03	762 7	59.4	15.2	81	2	■	2	2	3	6	3	.....	11	4205	6767	6	7.42	188.0
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	30.04	762 9	30.03	762.7	56.3	13.5	85	11	6	2	.....	4	.....	7	1	.....	711	1144	6	8.69	220.7
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	30.00	762.0	30.01	762.2	61.8	16.6	82	3	.....	.....	1	2	2	17	4	2	.....	.....	6	6.07	154.3
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.00	761.9	30.02	762.5	62.9	17.1	79	6	2	4	.....	1	2	6	10	....	7199	11585	6	6.54	166.1
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.04	763.1	30.03	762.7	61.4	16.3	83	1	5	4	2	2	2	8	3	4	4372	7030	6	3.48	88.3
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.91	759 7	30.02	762.5	63.5	17.5	77	1	3	.....	2	.....	1	4	1	19	.....	.....	5	3.51	89.1
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.98	761.6	30.04	763.0	60.0	15.5	86	13	5	2	.....	2	.....	7	2	.....	5290	8514	6	11.50	291.9
Wakayama	N. 34 14	E.135 09	9 01 p.m.	49	15	29.98	761.5	30.00	762.0	63.5	17.5	78	9	1	3	.....	1	.....	5	3	9	2117	3407	5	8.51	216.2
MAURITIUS.																									
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.92	760.0	30.04	763 0	73.8	23.2	64	1	3	1	1	1	7	14	3	.....	.....	.....	6	1.57	39.9
MEXICAN.																									
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.68	601.5	29.81	757.2	57.2	14.0	79	.....	18	.....	2	.....	1	1	9	.....	.....	.....	5	5.27	133.7
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.31	618.2	29.97	761.2	56.9	13.8	88	2	10	6	6	2	4	1	.....	.....	.....	.....	9	4.71	119.6
Mazztlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.64	752 9	29.85	758.2	76.5	24.7	84	.....	.....	.....	.....	.....	1	10	20	.....	.....	.....	5	5.81	147.5
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.09	586.3	30.05	763.2	54.0	12.2	88	1	9	2	.....	.....	1	.....	.....	18	.....	.....	7	5.96	151.4
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.40	594.4	30.00	762.0	61.2	16.0	59	4	4	.....	.....	.....	.....	.....	2	21	.....	.....	6	8.85	224 8
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.58	573.6	29.85	758.2	49.6	9.8	83	1	1	3	4	.....	3	6	13	.....	.....	.....	6	3.82	97.0
NETHERLANDS.																									
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.71	754.6	29.73	755.1	51.1	10.6	.....	4	2	9	6	4	1	3	.....	2	.....	.....	.....	5.88	149.3
Groningen	N. 53 12	E. 6 34	0.20 p.m.	?	?	29.60	751 7	29.67	753.6	48.7	9.3	.....	2	4	9	8	.....	3	3	1	1	.....	.....	.....	5.15	130.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.64	752.9	29.66	753 4	49.3	9.6	.....	3	6	4	6	6	.....	4	2	.....	.....	.....	.....	7.04	194.1
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.68	753.9	29.70	754.4	51.1	10.6	.....	3	2	7	3	5	3	4	3	1	.....	.....	.....	5.17	131.4
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.64	752.9	29.71	754.6	50.7	10.4	.....	5	.....	5	10	6	.....	4	1	.....	.....	.....	3	7.66	194.5
Sub-Series.																									
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.79	756.6	82.0	27.8	72	7	.....	.....	1	1	2	2	11	7	.....	.....	6	1.42	36.0
NORWEGIAN.																									
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.54	750.4	29.65	753.0	44.2	6.8	69	2	10	1	.....	7	5	3	1	2	.....	.....	4	6.32	160.6
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.63	752.5	29.72	754.8	40.3	4.6	69	1	1	1	3	1	6	9	4	5	.....	.....	6	3.37	85.7
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.56	749.4	29.69	754.2	42.6	5.9	75	6	3	2	8	2	5	3	1	1	.....	.....	7	3.30	83.9
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.69	754.2	29.78	759 3	33.3	0.7	.....	2	3	3	2	5	8	3	4	1	.....	.....	7	3.31	84.0
PORTUGUESE.																									
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.07	763.7	30.12	765.1	70.9	21.6	65	.....	1	.....	11	2	5	7	3	2	.....	.....	7	0.40	10.1
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.78	759.5	30.10	764.6	62.1	16.7	64	4	17	2	1	2	2	2	1	.....	.....	.....	6	1.12	28.5
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.20	767.0	30.25	768.3	69.8	21.0	66	2	.....	.....	2	2	8	3	12	2	.....	.....	4	1.35	34.2
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.90	759.5	29.87	758.8	82.8	28.2	66	8	.....	1	.....	1	.....	6	4	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.26	641.7	30.03	762.7	43.5	6.4	83	1	5	13	4	.....	1	6	.....	1	.....	.....	7	14.91	378.8
ROUMANIAN.																									
Bucarest	N. 44 25	E. 27 06	1.53 p.m.	366	112	29.61	752.2	30.00?	762.1?	66.9	19.4	55	1	.....	1	8	7	6	8	.....	.....	.....	.....	6	1.87	47.6
RUSSIAN.																									
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.99	736.3	30.11	764.8	43.0	6.1	59	.....	8	8	6	2	1	1	5	.....	.....	.....	6	0.49	12.4
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.87	758.6	29.94	760.5	34.3	1.3	81	3	1	.....	4	7	7	4	5	.....	.....	.....	7	0.74	18.7
Astrakhan	N.46 21	E. 48 02	3.12 p.m.	69	21	30.26	768.5	30.18	766.6	57.7	14.3	54	2	3	4	2	2	9	7	2	.....	.....	.....	5	0.11	2.9
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.17	766.4	30.12	765.0	65.8	18.8	72	13	1	.....	3	6	2	1	3	2	.....	.....	3	0	0
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.03	752.6	30.17	766.3	37.9	3.3	72	2	2	1	17	.....	1	1	5	2	.....	.....	9	1.71	43.4
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.54	750.2	29.81	757.2	43.5	6.4	81	3	3	2	4	4	9	4	2	.....	.....	.....	9	3.80	96.5
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.10	739 0	30.12	765.0	36.0	2.2	71	3	2	10	6	1	2	.....	3	4	.....	.....	8	0.28	7.0
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.55	750 6	30 00	762.0	60.8	16.0	63	1	5	1	5	7	6	4	1	1	.....	.....	8	1.90	48.2
Kasanlinska	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.93	760 1	30.10	764.5	56.8	13.8	40	5	2	2	3	2	..	5	9	2	.....	.....	4	0.26	6.5
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.84	757.8	30.14	765.5	42.8	6.0	68	1	2	4	7	10	5	2	.....	.....	.....	.....	7	1.15	29.2
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.78	756.5	29.89	759.2	35.4	1.9	82	1	6	3	6	5	2	3	3	2	.....	.....	8	1.30	32.9
Kerteh	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.03	762.7	30.05	763.3	64.0	17.8	72	2	2	.....	1	2	7	5	5	.....	.....	.....	6	0	0
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.32	744 8	29.94	760.5	56.3	13.5	77	2	2	4	6	6	1	1	3	.....	.....	.....	6	2.79	70.8
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.52	749.9	30.05	763.3	48.0	8.9	74	1	2	4	5	8	7	2	1	.....	.....	.....	8	1.14	29.0
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.46	748.2	30.06	763 5	52.7	11 5	69	.....	1	3	5	6	8	3	1	4	.....	.....	8	1.53	*38.9
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.09	754.1	29.74	755.4	48.0	8 9	80	1	3	5	5	3	5	5	3	1	.....	.....	8	5.07	128.8
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.94	760.4	30.15	765.8	58.1	14.5	58	3	....	3	4	1	9	7	4	.....	.....	.....	6	2.85	72.4
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.47	748.6	29.99	761.7	44.8	7.1	74	3	1	5	7	9	2	1	2	1	.....	.....	8	2.38	60.4
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.93	760.2	30.00	762.0	63.9	17.7	66	3	.....	1	3	9	3	1	1	10	.....	.....	3	1.01	40.8
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	59	18	29.91	759.6	30.01	762.2	34.5	1.4	80	1	2	.....	.....	1	1	7	1	17	.....	.....	4	0	0
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.61	752.1	30.11	764.8	37.8	3.2	80	3	2	1	2	8	8	1	5	1	.....	.....	8	2.18	55.5
Perm	N. 58 01	E. 56 16	3.45 p.m.	.....	105?	29.67	753.5	30.08	764.0	30.3	2.4	74	3	2	4	7	3	2	1	3	6	.....	.....	8	2.57	65.3
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.79	756.7	30.13	765 3	63.7	17.6	32	4	.....	1	3	.....	2	2	13	6	.....	.....	3	0.11	2.8
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.03	752.7	29.88	758 9	38.8	3.8	76	1	3	6	6	1	4	3	3	4	.....	.....	8	3.39	86.0
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.35	745.5	29.87	758.7	53.8	12.1	72	2	3	5	4	8	4	3	1	1	.....	.....	8	2.72	69.0
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.00	762.0	30.02	762 5	71.6	22.0	66	.....	3	.....	11	2	.....	13	.....	2	.....	.....	2	8.98	228.0
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.80	756.9	29.86	758.4	42.3	5.7	76	1	3	3	4	8	9	1	2	.....	.....	.....	9	2.62	66.5
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.64	702.1	30.09	764.3	57.9	14.4	72	1	.....	.....	.....	.....	4	.....	.....	24	.....	.....	3	1.31	33.3
Semipalatinsk	N. 50 24	E. 80 13	5.21 p.m.	607?	185?	29.48	748.8	30.16	766.1	44.2	6.8	61	3	1	3	2	2	.....	.....	3	18	.....	.....	6	0.30	7.7
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.77	756.2	29.98	761.5	69.3	20.7	54	2	4	4	5	8	3	.....	3	2	.....	.....	5	0.71	18.1
Statoi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.32	744.8	29.90	759.4	52.2	11.2	72	1	.....	3	.....	8	12	3	4	.....	.....	.....	9	3.72	94.4
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.45	722.6	30.08	764.0	64.4	18.0	49	1	6	.....	1	.....	.....	.....	.....	23	.....	.....	5	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28 70	729.0	30.09	764 3	67 8	19.9	53	3	6	.....	.....	.....	0	11	2	.....	3	.....	4	3.91	99.2
Yeniseisk	N. 58 27	E. 92 00	0 08 p.m.	262?	80?	29.83	757.7	30.16	766.1	27.0	— 2.8	70	2	4	.....	1	3	2	4	1	14	.....	.....	8	2.13	54.0
Sub-Series.																									
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.36	745.7	30.03	762.7	44.5	6.9	74	1	3	4	3	14	4	1	1	.....	.....	.....	8	2.15	54.6
SPANISH.																									
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.75	755.6	29.91	759.6	61.3	16.3	75	2	4	8	5	7	.....	1	4	.....	.....	.....	4	2.10	53.4
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.93	760.3	29.99	761.8	60.4	15.8	74	.....	13	3	.....	4	4	.....	.....	7	1378	2217	8	13.73	348.7
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.05	687.1	30.01	762 3	53.6	12.0	80	6	3	4	10	5	.....	.....	3	.....	5484	8825	7	1.82	46.1
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27 79	705.9	29.99	761.7	61.3	16.3	56	1	7	3	9	2	1	.....	1	7	7535	12126	6	0.75	19.1
Santiago	N. 42 53	W. 8 28	11.20 a.m.	863	263	29.13	740.0	30.00	763.4	57.4	14.1	77	4	5	2	7	3	1	.....	7	2	4281	6890	8	8.58	217.9
Sub-Series.																									
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.89	759 1	29.90	759 4	72.7	22.6	87	3	.....	.....	3	3	12	9	1	.....	.....	.....	5	7.23	183.7
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.89	759.1	29.87	758.7	80.2	26.8	84	1	.....	.....	4	2	6	17	1	.....	3661	6781	5	4.39	111.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
SPANISH—Con.	° ′	° ′																										
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.02	762.5	30.10	764.5	65.2	18.5	72	1	4	13	1	2	1	2	.....	7	.....	.....	5	2.25	57.1
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.88	758.9	29.91	759.7	79.9	26.6	86	....	.....	1	4	9	8	.....	.....	9	.....	.....	4	6.78	172.3
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.72	754 9	29.81	757.2	33.1	0.6	87	12	1	.....	1	4	1	5	3	4	.....	.....	6	2.78	70.7
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.69	754.2	29.79	756.7	37.4	3.0	80	5	3	1	5	4	3	2	6	2	.....	.....	6	3.12	79.3
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.65	753.2	29.75	755.6	39.9	4.4	79	4	1	... ...	4	4	3	2	5	8	.....	.....	8	8.76	222.5
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.48	748.8	29.69	754.2	42.4	5.8	84	5	3	3	2	2	2	6	3	5	.....	.....	8	5.99	152.1
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.60	751.9	29.69	754.2	46.2	7.9	81	1	3	10	5	2	5	1	4	.....	.....	.....	7	5.98	151.9
Sub-Series.																												
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.57	751.1	29.70	754.3	41.7	5.4	87	4	6	3	5	3	4	2	4	.....	.....	.....	8	4.14	105.2
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.97	761.2	69.1	20 6	61	7	2	.....	13	2	.....	1	6	.....	.....	.....	5	3.48	88.5
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.08	764.1	71.8	22.1	.....	.....	6	3	15	5	2	.....	.....	.....	.....	.....	5	11.10	282.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.96	761.0	79.9	26.6	59	3	1	3	13	.....	.....	1	10	.....	.....	.....	3	0.08	2.1
UNITED STATES.																												
New Eng 'd states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.97	761.2	30.04	763.0	46.3	7.9	86	4	3	2	5	6	....	2	8	1	6941	11009	5	5.96	151.4
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.94	760 5	30.05	763 3	44.1	6.7	88	6	6	6	4	2	1	2	4	.....	4840	7789	4	4.32	109.7
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.74	603.0	30.08	764.0	29.0	1.7	89	1	6	10	6	2	3	1	2	.....	20965	33739	3	11.11	282.2
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.91	759.7	30.04	763.0	47.8	8.8	85	6	5	8	3	2	1	3	1	2	7395	11901	3	5.71	145.0
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.03	762.7	30.05	763 3	53.2	11.8	87	5	3	1	6	2	3	3	7	1	9598	15446	4	5.81	147.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.02	762.5	30.06	763.5	49.5	9.7	85	6	2	6	2	4	3	.....	7	1	4919	7916	4	6.16	156.5
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.93	760 2	30.04	763 0	47.0	8.3	87	10	3	3	2	2	1	1	5	4	5345	8602	4	5.37	136.4
Mid. Atlan. states.																												
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.98	761.5	30.06	763.5	46.0	7.8	85	7	3	2	4	6	4	1	4	.....	4395	7073	6	5.54	140.7
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.87	758.7	30.04	763.0	51.2	10.7	84	3	7	3	3	2	4	1	6	2	6885	11080	5	5.62	142.7
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.92	760.0	30.03	762.7	50.7	10.4	85	2	8	2	5	1	2	.....	7	4	6256	10068	4	3.33	84.6
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.02	762.5	30.04	763.0	52.6	11.4	91	4	5	4	5	1	2	3	6	1	11342	18253	4	3.32	84.3
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.00	762.0	30.00	762.0	53.4	11.9	90	3	1	4	7	5	1	5	4	1	5895	9487	4	2.94	74.7
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.00	762 0	30.01	762.2	54.7	12.6	88	8	4	6	2	3	2	4	1	1	9593	15438	4	3.50	88.9
Cape May	N. 38 56	W. 74 58	7.00 a.m.	27	8	30.02	762.5	30.04	763.0	56.7	13.7	78	4	8	3	1	3	6	4	2	.....	10666	17068	4	2.99	75.9
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.99	761.7	30.02	762.5	51.4	10.8	85	13	3	3	2	3	....	2	5	.....	3926	6318	5	6.51	165.4
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.93	760 2	30.03	762.7	49.5	9.7	90	2	6	1	3	2	3	1	4	9	3707	5966	5	8.89	220.7
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.01	762.2	30.00	762.0	57.2	14.0	84	8	2	4	3	1	4	2	2	5	6171	9931	4	1.92	48.8
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.00	762.0	30.00	762.0	58.6	14.8	81	7	2	2	5	6	1	2	5	1	10139	16317	4	2.49	63.2
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.34	745.2	30.01	762.2	47.0	8.3	90	1	2	7	4	4	1	3	2	7	2319	3732	5	8.67	220.2
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.00	762.0	30.01	762.2	56.7	13.7	85	8	3	2	3	3	2	3	4	3	5133	8261	4	3.33	84.6
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.01	762.2	30.00	762.0	60.8	16.0	83	3	4	.....	3	2	2	3	10	4	10741	17286	4	5.03	127.8
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.98	761.5	29.98	761.5	62.6	17.0	79	6	3	1	4	2	.....	3	11	1	8924	14362	4	10.28	261.1
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.00	762 0	29.98	761.5	60.6	15.9	89	11	3	2	3	2	1	.....	9	.....	10780	17348	4	5.51	140.0
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.96	761.0	29.98	761.5	57.9	14.4	86	15	2	5	.....	2	1	2	4	.....	6493	10449	4	7.18	182.4
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	29.95	760.7	29.98	761.5	57.7	14.3	84	2	3	2	5	2	.....	4	12	1	4689	7546	5	8.73	221.7
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.17	740.9	30.00	762 0	51.6	10.9	87	4	4	2	3	1	3	.....	13	1	3527	5676	4	6.64	168.7
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.95	760.7	29.97	761.2	60.7	15.9	86	5	3	3	4	1	3	1	10	1	5636	9070	5	8.09	205.5
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.84	757.9	29.99	761.7	52.7	11.5	92	2	6	7	4	.....	2	2	6	2	3126	5031	4	4.15	105.4
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.91	759.7	29.97	761.2	59.8	15.4	84	10	2	4	3	4	.....	2	6	.....	5699	9172	4	7.67	194.8
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.94	760.5	29.95	760.7	63.0	17.2	85	5	5	2	5	.....	3	1	5	5	5598	9009	4	3.36	85.3
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	29.95	760.7	29.93	760.2	65.7	18.7	83	11	5	4	2	1	1	2	5	.....	7290	11732	6	4.38	111.2
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.95	760.7	29.92	760.0	76.6	24.8	80	1	3	3	4	1	2	4	12	1	7428	11954	6	5.07	128.8
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.95	760.7	29.94	760 5	66.3	19.1	90	9	5	3	5	2	3	.....	4	....	5183	8341	4	7.48	190.0
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.85	732.8	30.01	762.2	50.7	10.4	91	2	5	9	.....	1	3	8	3	.....	7251	11669	4	3.94	100.1
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.99	761.7	29.98	761 5	59.2	15.1	79	9	9	5	.....	2	.....	2	4	.....	5174	8327	6	2.38	60.5
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.01	762.2	30.01	762.2	55.8	13.2	88	12	12	3	.....	.....	.....	1	3	.....	1775	2856	6	1.19	30.2
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.81	757.2	30.01	762.2	53.9	12.2	88	1	9	2	2	.....	2	2	5	8	3876	6238	5	2.38	60.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.84	757 9	30.04	763.0	53.8	12.1	88	4	1	.....	1	5	5	5	4	6	3202	5153	4	1.01	25.7
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.98	761.5	30.00	762 0	60.3	15.7	86	5	4	5	2	1	2	2	9	1	5247	8444	3	0.56	14.2
West Gulf states																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.82	757.4	30.03	762.7	52.9	11.6	87	3	4	7	4	5	4	1	3	.....	.....	.....	3	4.32	109.7
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.55	750 6	30.02	762.5	48.4	9.1	87	3	4	1	1	.....	2	13	2	5	3604	5800	4	2.31	58.7
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.71	754.6	29.99	761.7	53.1	11.7	85	1	11	2	2	1	3	2	3	6	3398	5468	5	1.03	26.2
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.03	762 7	30.03	762.7	65.9	18.8	81	3	7	.....	.....	6	4	4	7	.....	7772	12508	4	2.20	55.9
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.02	762.5	30.01	762 2	65.3	18.5	83	11	..	1	.....	6	1	2	7	3	9342	15034	3	0.73	18.5
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.52	749.8	30.05	763.3	54.9	12.7	84	5	7	1	2	10	1	2	3	.....	6537	10520	3	1.47	37.3
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29 24	742.7	30.01	762.2	57.3	14.1	85	17	2	.....	.....	.....	2	1	8	1	a4718	a7593	4	0.65	16.5
Rio Grandevalley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.97	761 2	29.98	761.5	66.3	19.1	92	9	2	2	3	3	4	1	5	2	4406	7091	5	8.29	210.6
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.85	758.2	30.00	762.0	64.8	18.2	84	12	2	.....	.....	1	3	3	3	7	3618	5822	5	1.85	47.0
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.21	741.9	30.01	762.2	49.4	9.7	91	3	11	2	4	1	1	3	4	2	3890	6260	5	5.03	127.8
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.02	737.1	30.03	762.7	46.6	8.1	91	3	2	6	2	1	.....	3	12	2	3570	5745	6	7.86	199.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.68	753.9	29.99	761.7	52.4	11.3	88	2	2	9	1	3	7	.....	4	3	3629	5840	3	1.18	30.0
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.44	747 8	30.00	762.0	49.1	9.5	90	1	6	4	3	2	4	8	3	.....	4051	6519	5	2.99	75.9
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.43	747.5	30.00	762.0	50.9	10.5	85	3	4	4	5	5	2	3	2	3	4892	7873	5	4.97	126.2
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.05	737.9	29.99	761.7	45.8	7.7	86	3	3	3	4	4	6	6	2	.....	4669	7514	5	1.97	50.0
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.18	741.2	29.98	761.5	43.9	6.6	88	3	5	3	3	3	3	6	.....	5	3804	6122	5	3.25	82.5
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.34	745 2	29.99	761.7	46.4	8.0	90	1	2	5	4	3	3	2	2	9	4486	7219	5	2.30	58.4
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.14	740.1	30.00	762.0	44.8	7.1	89	6	2	3	4	7	5	1	1	2	4528	7287	5	3.11	79.0
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	935	29.19	741.4	30.00	762 0	46.8	8.2	84	1	3	1	2	4	1	2	.....	17	2853	4591	5	4.29	109.0
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.34	745.2	30.01	762.2	44.2	6.8	91	2	1	5	9	4	2	2	2	4	6039	9719	6	2.66	67.6
Buffalo	N. 42 53	W. 78 53	6.44 a.m	690	210	29.26	743.2	30.00	762.0	46.3	7.9	85	4	2	5	2	7	5	2	4	.....	6896	11098	6	6.19	157.2
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.64	752.8	30.00	762.0	44.7	7.1	82	1	2	4	2	10	9	1	2	.....	7429	11972	8	3.33	84.6
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	29.98	761.5	47.0	8.3	78	.....	1	2	7	11	3	3	4	.....	6933	11157	7	8.17	207.5
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.32	744.7	30.00	762.0	46.1	7.8	82	2	1	3	14	4	3	1	3	.....	9074	14603	6	2.92	74.2
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.24	742 7	29.98	761.5	45.9	7.7	89	1	.....	1	6	3	15	2	3	.....	6961	11202	6	3.78	96.0
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.30	744.2	29.99	761.7	45.9	7.7	91	5	3	1	9	6	1	2	3	1	5534	8906	6	3.70	94.0
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.27	743.4	29.98	761.5	46.3	7.9	86	5	7	.....	6	6	2	2	3	.....	6685	10758	6	1.68	42.7
Upper lake region																												
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.32	744 7	29.99	761.7	38.8	3.8	90	2	4	9	7	3	.....	3	3	.....	5859	9429	7	4.40	111.8
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.32	744 7	30.00	762.0	37.9	3.3	85	10	4	3	6	1	1	.....	6	.....	6437	10359	6	2.35	59.7
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744 5	29.98	761.5	42.3	5.7	87	2	2	2	2	2	6	5	10	.....	6957	11196	7	4.15	105.4
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.30	744.2	29.97	761.2	41.2	5.1	79	4	5	2	5	4	4	6	1	.....	7269	11698	7	2.04	51.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29 24	742.7	29.98	761.5	39.2	4.0	81	4	2	11	6	2	2	1	3	.....	6640	10686	8	2.91	73.9
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.29	744.0	29.97	761.2	42.7	5.9	89	4	4	1	5	8	1	3	5	.....	6343	10208	5	2.52	64.0
Chicago	N. 41 52	W. 87 38	6.09 a.m.	681	201	29.28	743.7	29.99	761.7	47.1	8.4	81	4	5	6	6	4	2	.....	3	1	6130	9875	5	3.87	98.3
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.21	741.9	29.96	761.0	42.9	6.1	82	4	10	2	8	1	2	.....	4	.....	7989	12857	7	2.40	61.0
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.26	743.2	30.01	762.2	37.8	3.2	78	4	13	4	2	.....	2	.....	3	3	5684	9147	6	0.79	20.1
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.10	739.1	30.00	762.0	36.7	2.6	90	1	5	7	2	2	3	5	.....	6	3840	6180	5	0.93	23.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.21	741.9	29.98	761.5	40.8	4.9	80	9	3	1	.....	14	1	2	.....	1	5623	9049	3	0.30	7.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea: Feet.	Altitude: Metr's	Result of Simultaneous Observations for October, 1885. Mean Barometer. Actual. Inch.	Actual. Mill.	Reduced. Inch.	Reduced. Mill.	Mean Temperature. Fah.	Mean Temperature. Cent.	Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Total Movement. Miles	Total Movement. Kil.	Average Cloudiness. 0–10	Total Precipitation. Inch.	Total Precipitation. Mill.
U. STATES—Con.																										
U. Miss. val.—Con.	° ′	° ′																								
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.34	745.2	29.99	761.7	42.7	5.9	83	4	4	2	5	3	2	2	6	3	4575	7363	5	2.71	68.8
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.11	739 4	30.01	762.2	42.5	5.8	86	6	5	2	3	4	3	2	6	......	3895	6268	6	4.18	106.2
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.30	744.2	30.00	762.0	40.8	4.9	86	3	9	2	......	7	2	3	1	4	3022	4863	5	2.32	58.9
Keokuk	N. 40 22	W. 91 26	5.51 a.m.	618	188	29.33	745.0	29.98	761.5	42.8	6.0	87	7	4	3	2	3	5	2	2	3	5654	9099	4	3.59	91.2
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.64	752.8	30.00	762.0	49.8	9.9	86	6	4	1	6	4	2	3	5	......	4534	7297	4	2.89	73.4
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.33	745 0	29.99	761.7	46.7	8.2	78	1	9	3	1	7	1	2	3	4	5569	8962	3	6.30	160.0
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.40	746.7	30.00	762.0	50.5	10.3	80	2	3	5	3	4	9	......	5	......	8046	12949	3	7.51	190.8
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.14	740.1	30.03	762.7	44.7	7.1	81	6	6	......	......	3	2	......	1	13	4373	7038	4	4.23	107.4
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.88	733 5	30.04	763.0	42.6	5.9	86	7	7	2	2	5	5	1	......	2	6778	10908	5	3.86	98.0
Fort Bennett	N. 44 43	W. 100 39	5.17 a.m.	1510	460	28.46	722.9	30.08	764 0	33.5	0.8	79	7	12	3	......	6	1	......	2	......	4798	7722	4	0.14	3.6
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28 64	727.4	30.06	763.5	33.7	0.9	80	3	11	1	1	1	10	......	1	3	5696	9167	5	0.98	24.9
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.72	729.5	30.05	763.3	38.2	3.4	84	1	12	5	1	2	3	1	2	4	5816	9360	4	1.24	31.5
Lamar	N 37 32	W. 94 15	5.43 a.m.	1028	313	28.95	735.3	30.03	762.7	45.2	7.3	85	5	5	1	3	5	8	......	4	......	6795	10935	4	1.57	39.9
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2604	793	27.33	694.2	30.03	762.7	37.4	3.0	77	5	7	7	7	2	1	......	1	1	7656	12321	5	0.93	23.6
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.99	736.3	30.01	762.2	31.4	—0.3	90	6	4	5	2	9	3	......	2	......	7334	11803	5	0.68	17.3
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.12	739.6	30.03	762.7	33.6	0.9	86	3	7	3	2	4	2	2	1	7	5873	9452	7	0.93	23.0
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.19	716.0	30.07	763.8	33.6	0.9	75	6	6	......	......	1	6	1	2	9	4446	7155	4	0.54	13.7
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.97	710 4	30.08	764 0	32.4	0.2	81	3	6	6	2	6	1	3	2	2	6133	9870	5	0.19	4.8
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.88	733.5	30.03	762.7	32.4	0.2	81	5	6	4	5	6	2	2	1	......	9561	15387	5	0.66	16.8
Northern slope.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.19	690.6	30.13	765.3	37.4	3.0	65	......	3	9	7	5	4	2	1	......	7129	11473	3	0.06	1.5
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.23	691 6	30.14	765.5	35.5	1.9	78	......	1	6	14	2	1	1	3	3	3659	5888	4	0.37	9.4
Fort Custer *a*	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.93	684 0	30.17	766.3	36.1	2.3	71	4	2	3	1	......	9	7	3	1	4586	7380	3	0.24	6.1
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.59	650.0	30.13	765.3	38.1	3.4	62	10	7	7	2	1	1	2	1	......	7783	12525	5	0.63	16.0
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.40	670.5	30.11	764.8	37.9	3.3	64	2	5	19	4	1	......	......	......	......	5868	9444	2	0.94	23.9
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.90	657.8	30.14	765.5	40.0	4.4	65	2	4	2	19	1	......	......	2	1	4674	7522	2	0.16	4.1
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.88	708 1	30.11	764.8	28.2	—2.1	82	4	9	9	3	1	......	1	2	2	5309	8544	5	0.09	2.3
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25 43	645.9	30.11	764.8	40.1	4.5	75	3	2	3	6	1	......	1	8	7	1724	2774	3	1.69	42.9
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.08	611.6	30.11	764.8	37.3	2.9	68	1	18	10	......	......	......	......	2	......	7278	11713	4	0.28	7.1
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.11	688.6	30.05	763.3	38.4	3.6	84	2	8	7	3	5	3	2	......	1	5820	9366	7	1.18	30.0
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.85	453 4	30.12	765.0	18.6	—7.4	82	6	8	9	......	1	......	2	3	2	15051	24222	3	1.53	38 9
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.56	725 4	30.02	762.5	41.3	5.2	82	5	9	2	4	2	4	......	3	2	6735	10839	3	2.40	62.5
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.82	630 4	30.07	763.8	39.9	4.4	68	4	2	1	......	22	......	......	2	......	5330	8578	2	0.73	18.5
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.12	603.4	30.03	762.7	36.3	2.4	88	3	5	13	4	1	......	1	2	2	4735	7620	2	1.19	30.2
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.44	697 0	30.03	762.7	41.5	5.3	83	6	7	5	2	6	4	......	1	......	8074	12994	1	1.06	26.9
Fort Elliott *a*	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.29	693.2	30.06	763.5	42.6	5.9	80	3	11	2	4	2	2	......	1	5	7719	12422	2	0.60	15.2
Southern slope.																										
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.81	731.8	30.04	763.0	46.9	8.3	88	15	5	......	......	3	2	......	1	5	6580	10589	2	0.98	24.9
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.28	718 3	30.10	764.5	53.4	11.9	47	3	7	1	6	7	3	......	......	4	6912	11124	3	2.61	66.3
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3004	916	27 08	687.8	30.07	763.8	51.9	11.1	78	4	3	3	......	2	8	1	1	9	4754	7651	2	1.12	28.4
Fort Davis	N. 30 38	W. 103 50	5.04 a.m.	4928	1502	25.24	641.1	30. 6	763.5	48.9	9.4	70	2	4	3	8	1	......	......	5	8	4481	7211	2	0.70	17.8
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.34	669.0	......	......	57.2	14.0	47	2	2	1	...	1	......	12	12	1	3128	5034	1	0.25	6.3
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.35	593.1	30.05	763 3	40.8	4.9	64	1	......	......	4	......	7	6	12	1	4316	6946	2	1.07	27.2
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27 27	692.6	29.95	760.7	44.7	7.1	56	......	......	4	1	7	3	1	......	15	......	......	1	0.01	0.3
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.10	637.5	29.98	761.5	41.1	5.1	61	......	......	......	......	......	1	9	19	2	4607	7414	0	0.38	9.7
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.27	641.8	29.94	760.5	55.1	12.8	37	10	4	2	......	......	3	1	10	1	5367	8637	0	0.03	0.8
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.78	629.4	29.96	761 0	40.7	4.8	71	......	......	......	1	3	1	1	......	25	2779	4472	1	0.38	9.7
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.72	754.9	29.84	757.9	63.6	17.6	75	......	6	......	......	......	5	2	14	4	......	......	1	0	0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.32	668 5	30.03	762 7	51.2	10.7	60	2	6	......	......	......	4	13	1	5	2859	4601	1	0.46	11.7
Middle plateau.																										
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.61	599.7	......	......	33.9	1.1	72	......	......	2	22	6	......	......	1	......	5625	9052	2	0.38	9.7
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.71	653 0	30.10	764.5	47.8	8.8	63	3	1	1	......	2	11	7	3	3	2823	4543	3	0.59	15.0
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.78	604.0	......	......	48.6	9.2	43	11	2	3	13	......	......	......	1	1	5777	9297	2	0.40	11.7
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.69	652.5	30.11	764.8	39.4	4.1	45	1	......	......	4	1	......	2	22	1	5139	8270	1	0.07	1.8
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.41	620 0	30.17	766.3	36.3	2.4	71	......	2	1	......	2	23	3	......	......	4616	7429	2	0.56	14.2
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.51	647 9	......	......	36.6	2.6	......	1	10	5	1	......	......	4	2	8	2876	4628	3	0.75	19.0
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.24	691.9	30.10	764.5	43.4	6.3	76	1	3	2	......	......	8	5	1	11	2155	3468	2	0.58	14.7
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.29	744.0	30.09	764.3	42.1	5.6	84	......	......	......	1	......	2	......	6	22	1333	2145	4	0.71	18.0
Spokane Falls *b*	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.07	713.0	30.16	766.1	38.8	3.8	75	......	1	1	5	1	2	5	2	12	2033	3272	2	0.80	20.3
Dayton	N. 46 19	W. 117 56	4.08 a.m.	1683	513	28.31	719.1	30.10	764.5	42.5	5.8	76	4	......	......	6	1	4	2	8	6	3051	4910	3	1.23	31.2
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.77	756.1	29.97	761.2	52.6	11.4	91	9	1	5	3	7	5	......	......	1	6913	11125	4	3.48	88.4
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.98	761.5	30.04	763.0	44.6	7.0	93	1	......	......	......	15	12	2	1	......	2178	3505	3	2.84	72.1
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.00	762.0	30.02	762.5	42.3	5.7	97	......	......	1	......	27	2	......	......	1	2721	4379	4	2.44	62.0
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.90	759 4	30.00	762.0	50.8	10.4	86	......	......	......	6	......	5	18	1	1	10298	16573	5	7.51	190.8
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	29.93	760 2	30.02	762.5	49.4	9.7	93	1	12	......	1	2	6	......	......	9	2871	4620	4	1.68	42.7
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.46	748.3	30.02	762.5	46.9	8.3	93	......	......	......	......	......	1	2	1	27	885	1424	3	1.66	42.2
Mid Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.32	744.7	30.00	762.0	53.9	12.2	87	10	2	1	......	2	13	....	1	2	10708	17232	5	1.11	28.2
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.63	752.6	29.97	761.2	50.4	13.6	65	6	17	4	......	2	......	......	1	1	3072	4944	1	0.10	2.5
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.90	759.4	29.95	760.7	54.1	12.3	81	1	6	1	1	3	18	.....	......	1	3761	6053	2	0.02	0.5
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.92	760.0	29.98	761.5	56.4	13.6	93	......	1	5	13	3	4	......	1	4	5024	8085	6	0.72	18.3
S. Pac. coast reg'n.																										
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.66	753.4	29.92	760.0	52.8	11.6	87	4	3	9	......	1	4	2	2	6	4132	7132	2	0.07	1.8
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.59	751.6	29.92	760.0	54.5	12.5	87	2	1	......	......	......	......	4	7	17	2515	4047	2	0.30	7.6
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.86	758 4	29.90	759.4	59.4	15.2	94	14	6	1	......	......	......	1	3	6	3110	5005	4	0.31	7.9
Alaska stations.																										
Fort Alexander	N. 53 54	W. 153 14	1.47 a.m.	......	......	29.38	746.2	29.46	748.3	37.7	3.2	83	1	1	1	2	5	......	7	14	......	......	......	7	2.13	54.1
Sitka	N. 57 03	W. 135 19	2.59 a. m.	63	19	29.66	753 4	29.76	755.9	46.1	7.8	82	......	2	......	......	......	18	6	2	3	9650	15530	8	13.55	344.2
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.37	746.0	29.41	747.0	41.3	5.2	85	......	10	4	6	4	5	......	2	......	10185	16391	8	17.60	447.0
Sub-Series.																										
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.76	755.9	29.81	757.2	34.2	1.2	88	6	9	......	2	6	2	1	3	2	......	......	8	1.34	34.0
Bluefields *d*	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.91	759.7	29.86	758.4	76.2	24.6	90	2	13	3	6	2	......	......	1	......	......	......	5	2.69	68.3
Cay Sal Light H.	N. 23 56	W. 80 28	6.38 a. m.	?	?	......	......	29.92	760.0	79.5	26.4	75	5	3	1	3	3	......	5	10	1	......	......	5	6.39	162.3
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.01	762.2	29.93	760 2	81.7	27.6	76	......	......	......	......	1	17	13	......	......	......	......	4	1.33	33.8
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	......	......	......	......	78.3	25.7	78	......	2	1	2	2	7	5	7	5	......	......	6	7.83	198.9
San José	N. 9 56	W. 84 00	6.24 a.m.	......	......	......	......	......	......	63.3	17.4	......	31	......	......	......	......	......	......	......	......	......	......	......	12.22	310.4

OCEAN SQUARE DATA FOR OCTOBER, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.85	758.2	82.7	28.2	3	.....	.....	.....	.....	.....	3	24	1	.....	3.5
12.5 27.5	29.90	759.4	82.3	27.9	3	1	.....	.....	1	.....	9	14	3	.....	2.8
12.5 32.5	29.92	760.0	82.3	27.9	1	2	1	1	2	.....	15	7	2	.....	3.4
12.5 37.5	29.93	760.2	82.5	28.1	1	1	2	1	1	2	18	.....	.....	5	3.4
12.5 42.5	29.93	760.2	83.0	28.3	2	3	1	.....	.....	1	16	1	.....	7	3.4
12.5 47.5	29.94	760.5	83.2	28.4	3	1	1	.....	.....	.....	16	4	1	5	3.2
12.5 52.5	29.93	760.2	84.1	28.9	2	.....	2	.....	.....	3	16	2	.....	6	3.4
17.5 22.5	29.91	759.7	81.3	27.4	1	.....	.....	.....	.....	1	13	11	5	.....	3.5
17.5 27.5	29.92	760.0	81.2	27.3	2	1	.....	2	2	.....	12	11	1	.....	3.5
17.5 32.5	29.94	760.5	80.5	26.9	2	.....	2	4	2	2	11	7	.....	1	3.5
17.5 37.5	29.94	760.5	80.8	27.1	.....	1	4	1	2	1	13	5	.....	4	3.6
17.5 42.5	29.95	760.7	81.5	27.5	1	3	3	.....	.....	.....	14	4	1	5	3.7
17.5 47.5	29.97	761.2	82.0	27.8	5	2	.....	.....	.....	3	15	.....	1	5	3.4
17.5 52.5	29.97	761.2	82.6	28.1	1	2	.....	.....	1	2	15	5	.....	5	3.2
17.5 57.5	29.96	761.0	83.8	28.8	3	.....	.....	.....	2	5	15	4	.....	2	3.6
22.5 22.5	29.98	761.5	78.5	25.8	.....	.....	.....	.....	3	.....	15	10	3	.....	3.7
22.5 27.5	29.97	761.2	78.9	26.1	.....	1	.....	5	.....	1	15	8	1	.....	4.2
22.5 32.5	29.96	761.0	78.7	25.9	.....	.....	2	3	4	2	15	4	.....	1	4.1
22.5 37.5	29.95	760.7	79.1	26.2	.....	2	7	.....	1	3	12	5	.....	1	4.2
22.5 42.5	29.97	761.2	79.6	26.4	4	5	.....	.....	1	2	12	4	.....	3	4.1
22.5 47.5	30.00	762.0	80.2	26.8	6	1	.....	.....	3	4	11	3	.....	3	3.8
22.5 52.5	30.00	762.0	80.7	27.1	.....	2	.....	1	5	4	11	4	.....	4	3.6
22.5 57.5	29.98	761.5	81.3	27.4	2	1	.....	2	6	10	9	.....	.....	1	3.6
22.5 62.5	29.95	760.7	81.5	27.5	2	1	3	1	3	10	8	.....	3	.....	3.2
22.5 67.5	29.94	760.5	81.2	27.3	1	2	1	.....	7	5	10	1	4	.....	5.3
22.5 72.5	29.94	760.5	82.1	27.8	1	1	1	1	4	4	12	3	4	.....	3.1
27.5 22.5	30.06	763.5	75.8	24.3	.....	.....	.....	1	.....	4	22	4	.....	.....	4.1
27.5 27.5	30.04	763.0	76.4	24.7	.....	.....	.....	1	1	9	16	3	1	.....	4.4
27.5 32.5	30.00	762.0	76.6	24.8	.....	.....	1	1	3	12	10	4	.....	.....	4.5
27.5 37.5	29.98	761.5	76.9	24.9	1	5	3	.....	4	5	8	5	.....	.....	4.7
27.5 42.5	30.00	762.0	77.2	25.1	3	2	.....	1	3	2	7	9	.....	4	4.5
27.5 47.5	30.02	762.5	77.7	25.4	3	.....	.....	3	1	4	8	7	.....	5	4.0
27.5 52.5	30.02	762.5	78.0	25.6	4	.....	3	1	6	7	5	3	.....	2	4.1
27.5 57.5	29.98	761.5	78.4	25.8	2	.....	4	1	10	4	4	2	3	1	3.7
27.5 62.5	29.96	761.0	78.6	25.9	3	2	1	2	10	5	4	4	.....	.....	4.1
27.5 67.5	29.96	761.0	78.7	25.9	0	1	1	1	7	0	4	4	1	.....	4.2
27.5 72.5	29.95	760.7	78.7	25.9	4	1	2	3	5	3	7	5	1	.....	3.7
27.5 77.5	30.00	762.0	75.6	24.2	4	.....	3	5	1	2	7	9	.....	.....	3.8
32.5 12.5	30.10	764.5	70.6	21.4	6	.....	.....	.....	.....	.....	11	13	.....	1	3.8
32.5 17.5	30.16	766.1	71.6	22.0	4	.....	.....	.....	1	3	10	12	1	.....	3.7
32.5 22.5	30.14	765.5	72.8	22.7	.....	.....	.....	.....	1	7	12	11	.....	.....	4.1
32.5 27.5	30.12	765.0	74.1	23.4	.....	.....	.....	.....	2	12	14	3	.....	.....	4.5
32.5 32.5	30.08	764.0	74.8	23.8	.....	.....	.....	.....	7	9	12	3	.....	.....	4.6
32.5 37.5	30.06	763.5	75.1	23.9	1	1	1	2	5	5	13	3	.....	.....	4.4
32.5 42.5	30.07	763.8	75.0	23.9	1	1	1	2	3	5	9	7	.....	2	4.4
32.5 47.5	30.07	763.8	75.0	23.9	5	1	1	2	5	9	5	3	.....	.....	4.0
32.5 52.5	30.03	762.7	75.2	24.0	2	.....	2	3	10	6	3	4	.....	1	4.2
32.5 57.5	29.98	761.5	75.0	23.9	2	1	2	4	10	4	3	4	1	.....	4.4
32.5 62.5	29.96	761.0	74.4	23.6	4	3	3	7	5	2	4	3	.....	.....	4.8
32.5 67.5	29.96	761.0	74.5	25.6	4	.....	4	4	3	4	3	6	3	.....	4.6
32.5 72.5	29.97	761.2	72.4	22.4	6	1	2	3	3	2	5	9	.....	.....	4.8
32.5 77.5	29.97	761.2	65.6	18.7	7	1	4	2	2	4	4	7	.....	.....	4.0
37.5 12.5	30.14	765.5	65.9	18.8	7	6	3	.....	.....	1	2	10	1	1	4.1
37.5 17.5	30.19	766.8	67.7	19.8	10	3	3	.....	.....	.....	6	8	1	.....	4.0
37.5 22.5	30.25	768.3	69.3	20.7	8	.....	1	1	2	4	9	5	.....	1	3.5
37.5 27.5	30.23	767.8	70.5	21.4	.....	.....	1	1	5	9	10	5	.....	.....	3.8
37.5 32.5	30.18	766.6	71.7	22.1	.....	1	1	1	7	10	11	.....	.....	.....	4.5
37.5 37.5	30.13	765.3	72.1	22.3	1	1	1	3	8	8	8	1	.....	.....	4.8
37.5 42.5	30.11	764.8	71.4	21.9	.....	3	.....	3	8	5	7	4	.....	1	4.8
37.5 47.5	30.10	764.5	70.8	21.6	3	1	2	4	7	6	4	4	.....	.....	4.6
37.5 52.5	30.01	762.2	71.1	21.7	.....	1	1	5	9	7	3	4	.....	1	4.8
37.5 57.5	29.99	761.7	70.2	21.2	5	1	1	2	9	4	5	4	.....	.....	4.9
37.5 62.5	29.97	761.2	68.7	20.4	4	1	2	4	3	5	3	9	.....	.....	5.4
37.5 67.5	29.99	761.7	66.6	19.2	7	1	2	3	4	2	7	4	1	.....	4.9
37.5 72.5	30.00	762.0	54.7	12.6	11	2	1	1	5	4	3	4	.....	.....	4.1
42.5 12.5	30.10	764.5	61.6	16.4	7	11	6	2	1	.....	.....	4	.....	.....	4.8
42.5 17.5	30.17	766.3	64.0	17.8	11	11	3	1	.....	.....	.....	5	.....	.....	4.9
42.5 22.5	30.24	768.1	65.6	18.7	7	6	4	2	1	3	4	3	.....	1	4.6
42.5 27.5	30.24	768.1	66.5	19.2	6	4	3	3	6	1	3	5	.....	.....	4.5
42.5 32.5	30.21	767.3	66.8	19.3	1	1	4	5	8	3	4	5	.....	.....	4.6
42.5 37.5	30.16	766.1	67.1	19.5	1	.....	3	7	9	3	6	2	.....	.....	4.9
42.5 42.5	30.13	765.3	65.7	18.7	2	1	2	6	6	6	4	3	1	.....	4.7
42.5 47.5	30.11	764.8	63.1	17.3	4	.....	5	3	6	7	2	3	.....	1	4.6
42.5 52.5	30.07	763.8	61.4	16.3	2	2	2	3	4	10	3	4	.....	1	5.2
42.5 57.5	30.01	762.2	60.0	15.6	4	2	2	2	5	8	4	4	.....	.....	5.1
42.5 62.5	30.01	762.2	56.6	13.7	6	5	3	.....	4	4	2	5	2	.....	5.0
42.5 67.5	30.04	763.0	51.8	11.0	7	4	4	1	3	5	1	4	2	.....	3.7
47.5 12.5	29.99	761.7	57.6	14.2	4	14	7	.....	1	1	.....	4	.....	.....	6.2
47.5 17.5	30.09	764.3	59.1	15.1	2	13	5	2	.....	.....	.....	8	1	.....	5.8
47.5 22.5	30.16	766.1	60.0	15.6	2	9	10	1	4	.....	.....	5	.....	.....	5.3
47.5 27.5	30.19	766.8	60.6	15.9	1	8	10	3	3	1	1	3	.....	1	5.0
47.5 32.5	30.18	766.6	60.6	15.9	1	6	7	5	6	3	3	.....	.....	.....	5.0
47.5 37.5	30.13	765.3	60.0	15.6	4	3	3	10	5	.....	4	1	.....	1	4.7
47.5 42.5	30.11	764.8	54.4	12.4	5	1	1	9	5	5	1	3	1	.....	4.8
47.5 47.5	30.09	764.3	51.4	10.8	4	1	4	4	7	3	1	5	2	.....	4.3
52.5 12.5	29.86	758.4	52.0	11.1	5	10	7	.....	1	1	1	6	.....	.....	5.4
52.5 17.5	29.99	761.7	53.5	11.9	3	13	5	.....	2	.....	1	7	.....	.....	6.1
52.5 22.5	30.01	762.2	53.7	12.1	4	10	8	1	3	1	.....	4	.....	.....	5.6
52.5 27.5	30.06	763 5	54.1	12.3	2	9	11	.....	6	.....	1	2	.....	.....	5.4
52.5 32.5	30.06	763.5	53.0	11.7	.....	10	9	4	4	2	1	1	.....	.....	5.6
52.5 37.5	30.04	763.0	52.2	11.2	1	7	8	7	3	2	2	1	.....	.....	4.8
52.5 42.5	30.03	762.7	50.0	10.0	1	6	5	9	5	1	1	3	.....	.....	5.0
52.5 47.5	30.01	762.2	46.2	7.9	3	5	5	8	5	2	1	1	.....	1	4.8
57.5 12.5	29.77	756.1	47.1	8.4	4	10	3	.....	1	1	4	6	1	1	5.0
57.5 17.5	29.84	757.9	46.7	8.2	6	11	2	1	3	1	3	2	1	1	5.2
57.5 22.5	29.91	759.7	46.6	8.1	6	11	2	2	4	.....	1	5	.....	.....	5.2
57.5 27.5	29.96	761.0	45.7	7.6	4	13	2	1	6	.....	1	3	.....	1	5.6
57.5 32.5	29.93	760.2	44.9	7.2	3	9	8	.....	4	3	2	.....	1	1	5.3
57.5 37.5	29.93	760.2	43.3	6.3	.....	8	11	1	4	3	1	1	.....	2	4.9
57.5 42.5	29.93	760.2	42.6	5.6	.....	6	7	6	4	1	4	1	.....	2	4.9
57.5 47.5	29.91	759.7	39.7	4.3	1	3	6	8	5	4	2	.....	.....	2	4.6

REVIEW.

INTERNATIONAL METEOROLOGY FOR OCTOBER, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of October, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure charted is bounded by the isobar of 29.70 (754.4) and includes the North Sea and its eastern and western coasts, the southern half of Scandinavia, Denmark, and a portion of the Baltic Sea. The lowest mean pressure recorded within this area is 29.63 (752.6) at Vestervig, Denmark. A second area of low mean pressure, embraced within the isobar of 29.80 (756.9), includes British India and portions of the Sea and Gulf of Bengal, and exhibits means ranging to 29.71 (754.6) at Bellary. Three areas of relatively low mean pressure, partially enclosed by isobars of 29.90 (759.4), are charted, one being located along the southwest coast of North America and including southern and Lower California, the Gulf of California, the southwestern part of Arizona, and the western portion of Mexico; the second is situated off the west coast of Africa south of the sixteenth parallel, and the third is given a probable western boundary through Kamchatka and the northeastern portion of the Sea of Okhotsk.

The lowest mean pressure exhibited on the chart appears over the eastern portion of Behring Sea, where mean readings ranging from 29.41 (747.0) at Unalashka, Aleutian Islands, to 29.46 (748.3) at Fort Alexander, Alaska, are recorded.

The area of highest mean pressure is located over the north Atlantic Ocean between latitude N. 35° to 45° and longitude W. 18° to 33°. This area is surrounded by the isobar of 30.20 (767.1), and includes mean pressures ranging to 30.25 (768.3). Two areas of high mean pressure, bounded by the isobars of 30.10 (764.5), appear, one being charted over the western interior of British America, and the other over eastern and southeastern Europe and western Asia between the fiftieth and sixtieth parallels. In the United States, east of the ninetieth meridian, and in Canada, the mean pressure averages about 30.00 (762.0). On the west coast of the United States, between the fortieth and fiftieth parallels, the mean pressure is about 30.00 (762.0). Over the West Indies, and the ocean northward to the thirty-sixth parallel, the mean pressure ranges below 30.00 (762.0). Over the western portion of the Caribbean Sea the mean pressure ranges below 29.80 (756.9), and at Panama the mean barometer for the month is recorded, 29.77 (756.1). Over the north Atlantic Ocean the barometric gradient is steep off the west-central coast of Europe, a range of .62 of an inch being shown between the extreme high and low means east of the thirtieth meridian. In Europe the mean pressure for the month is highest over eastern and southeastern Russia, where it ranges to 30.18 (766.6), and lowest over the North Sea and its borders. Over the Iberian Peninsula it increases westward from 29.91 (759.7) to 30.10 (764.5), and in Italy increases southward from 29.85 (758.2) to 29.95 (760.7). On the eastern coast of Asia the pressure ranges from 29.97 (761.2) on the southeast coast of China to 30.08 (764.0) in Corea. Over the Japanese Isles it averages 30.03 (762.7), with a total range of only .05 inch. Thence the pressure decreases to the northeastward over Behring Sea, falling at Unalashka to 29.41 (747.0).

Compared with the chart for the preceding month (September 1885), there has been a decrease ranging from .01 to .08 inch in all districts of the United States and Canadian Provinces east of the Mississippi River, excepting over a portion of the Atlantic seaboard. This decrease in the barometric means for October as compared with those for September is an abnormal feature in the region above named, for the normal pressure for October averages about .05 inch above that for September. To the westward of the Mississippi River the pressure is everywhere greater than for September, and in the Rocky Mountain region the increase is from .15 to .23 inch. Over British America west of the ninetieth meridian a similar increase of pressure has occurred.

Over the north Atlantic Ocean the permanent area of high pressure which in September was enclosed by an isobar of 30.2 (767.1) lying between the parallels of N. 30° and 40°, has moved northeastward and is found between N. 35° and 45°. A corresponding change of position has taken place in the position of the area of low pressure which in September was central over Iceland and the Färöe Islands, for the present month it has moved southeastward and is found central over the North Sea and the southern portion of the Scandinavian Peninsula. The pressure at the centre has also risen about .07 inch. Over the southwestern portions, between the parallels of N. 30° and 40°, a decrease has taken place. Over Europe the pressure has increased throughout the eastern portion and decreased in the other sections, excepting the extreme southwest.

In Europe the mean pressure ranges about .12 lower over the British Isles; about .16 lower over France; about .05 to .06 lower over Spain and Scandinavia; about .15 lower over Germany; about .10 lower over southern portions; and in Russia, while stationary in the Baltic provinces, has risen in the Ural Mountains 0.30 inch. In Asia there has been an increase in mean pressure of about .10 over nearly the whole of British India; over the Japanese Isles the increase averages about .12, and over Behring Sea the pressure has fallen from .15 to .30 inch.

Compared with the corresponding month of previous years the mean pressure over the United States was below the normal east of the ninety-seventh meridian and along the Pacific coast, the departures exceeding .10 inch in the lower lake region, the Ohio Valley, and the Atlantic seaboard. In the plateau and Rocky Mountain districts the pressure was above the normal, the departures not exceeding .07 inch. In Canada the mean pressure was slightly below the normal in Ontario and above the normal in Quebec and the Maritime Provinces. Over the British Isles the pressure has been everywhere below the normal, except in the extreme southwest of Ireland; over southeastern counties the deficit was over 0.20 inch, decreasing to 0.05 inch on the northwestern coasts. Similarly in continental Europe all countries show an average deficiency in mean pressure; over France and Austro-Hungary the deficiency averaged about .15; over Germany, .22, and over Denmark, .026; over Russia and Spain the pressure was only slightly below the average. Over British India no departure from the average mean pressure took place.

The following table shows the mean pressure and mean temperature for October, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Oct. mean of 8 (1877–'84) years.	Oct., 1885.	Departure.	Oct. mean of 8 (1877–'84) years.	Oct., 1885.	Departure.
				°	°	°
Austro-Hungary	30.00	29.86	— 0.14	56.2	56.7	+ 0.5
British Isles	29.95	29.75	— 0.20	52.7	49.2	— 3.5
Denmark	29.91	29.65	— 0.26	49.6	47.0	— 2.6
France	30.01	29.86	— 0.15	60.6	54.3	— 6.3
Germany	30.00	29.78	— 0.22	51.3	50.6	— 0.7
India	29.78	29.78	normal.	81.1	83.0	+ 1.9
Italy	29.98	29.89	— 0.09	64.6	63.2	— 1.4
Japan	.....	30.02	.....	.....	59.0	.....
Norway	29.82	29.69	— 0.13	45.9	42.4	— 3.5
Russia	30.03	29.99	— 0.04	50.0	48.0	— 2.0
Spain*	30.01	29.99	— 0.02	65.2	58.6	— 6.6
Sweden	29.87	29.75	— 0.12	43.1	39.6	— 3.5

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Oct. mean of 8 (1877–'84) years.	Oct., 1885.	Departure.	Oct. mean of 8 (1877–'84) years.	Oct., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.17	30.18	+ 0.01	56.7	57.7	+ 1.0
Archangel, Russia*	29.82	29.88	+ 0.06	38.5	34.3	— 4.2
Athens, Greece	30.02	29.92	— 0.10	72.2	72.7	+ 0.5
Beirut, Turkey in Asia	29.95	29.99	+ 0.04	79.0	79.9	+ 0.9
Barnaul, Siberia, Asia	30.17	30.15	— 0.02	38.2	37.9	— 0.3
Bridgetown, Barbadoes*	29.95	30.00	+ 0.05	82.4	85.5	+ 3.1
Cape Town, Cape of Good Hope				70.0	70.1	+ 0.1
Ekaterinburg, Russia	30.02	30.09	+ 0.07	37.5	36.0	— 1.5
Fort Napier, Natal, South Africa*	29.88	29.86	— 0.02	73.7	76.4	+ 2.7
Freetown, Sierra Leone	29.90	29.85	— 0.05	84.1	81.1	— 3.0
Funchal, Madeira Islands	30.12	30.15	+ 0.03	72.5	70.9	— 1.6
Gibraltar*	30.05	30.06	+ 0.01	68.1	64.0	— 4.1
Havana, Cuba, W. I.	29.97	29.95	— 0.02	75.2	72.7	— 2.5
Malta, Mediterranean Sea				73.6	72.8	— 0.8
Melbourne, New South Wales	29.98	30.11	+ 0.13	54.3	54.9	+ 0.6
Mauritius, Indian Ocean	30.10	30.04	— 0.06	75.0	73.8	— 1.2
Mexico, Mexico*	30.19	30.11	— 0.08	53.2	54.0	+ 0.8
Nassau, Bahamas, W. I.	30.00	29.97	— 0.03	79.7	78.8	— 0.9
Nikolaevsk on the Amoor, Asia		30.01			34.5	
Paramaribo, D. Guiana, S. A.	29.99	29.93	— 0.06	80.7	81.7	+ 1.0
Ponta Delgada, Azores	30.13	30.27	+ 0.14	69.6	69.8	+ 0.2
Sandwick Manse, Orkneys	29.84	29.69	— 0.15	48.5	42.8	— 5.7
San Juan de Puerto Rico, W. I.	29.96	29.97	+ 0.01	80.3	79.9	— 0.4
Stykkisholm, Iceland	29.67	29.77	+ 0.10	39.5	37.0	— 2.5
Tashkend, Toorkistan, Asia	30.20	30.08	— 0.12	56.7	54.4	— 2.3
Thorshavn, Färöe Islands	29.73	29.65	— 0.08	45.9	42.6	— 3.3
Tiflis, Russia	30.10	30.09	— 0.01	65.9	67.8	+ 1.9
Tokio, Japan	30.07	30.07	normal.	58.3	60.0	+ 1.7
Yeniseisk, Siberia, Asia	30.13	30.13	normal.	30.2	27.0	— 3.2
Zi-Ka-Wei, China	30.15	30.12	— 0.03	61.0	61.2	+ 0.2

* Means for seven years only.

In the United States the mean temperature for the month was generally below the normal east of the one hundred one and second meridian, and above the normal west of it; the deficiencies were greatest in the Southern States, where they ranged from 5° to 8° Fahr. In Canada the temperature was below the average in western Ontario, about normal in Quebec, and in the Maritime Provinces slightly above; all the departures were less than 3° Fahr. In the British Isles the mean temperatures, compared with the average value for twenty years, were 4° to 5° Fahr. below the normal in Ireland and England and more than 5° below in Scotland. Over the continent of Europe the mean temperature, as in September, was below the normal, but to an increased amount. In France and Spain the defect averaged between 6° and 7° Fahr.; in Scandinavia 3°.5 Fahr. In India the temperature excess prevailing in September continued during October, and increased to 2° Fahr. above the normal.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Deesa, India	92.8	33.8	Yeniseisk, Siberia	27.0	—2.8
Bridgetown, Barbadoes	85.5	29.7	Poplar River, Montana	28.2	—2.1
Saint Vincent, Cape Verd	82.8	28.2	Minnedosa, Manitoba	28.4	—2.0
Batavia, Java	82.0	27.8	Moorhead, Minnesota	31.4	—0.3
Parimaribo, Dutch Guiana	81.7	27.6	Gjaesvær, Norway	33.3	0.7
Freetown, Sierra Leone	81.1	27.3	Behring's Island, Behring Sea	34.2	1.2

In the United States the prevailing winds were north and northwesterly in the Gulf States, the upper Missouri valley, and on the middle Atlantic seaboard; in the south Atlantic states northeasterly, and in other sections variable winds prevailed. In Canada west and northwest winds prevailed over the Northwest Territories, and in other districts all directions are exhibited.

Over the north Atlantic Ocean, north of the forty-fifth parallel, strong northwesterly winds prevailed from the European coast west to the thirty-fifth meridian; thence strong southwest winds westward to the American coast; to the west and southwest of the area of high pressure inclosed by the isobar of 30.2 inches above described, the winds were south, southeast, and east, progressively, in accordance with Buys Ballot's law; south of N. 30° and east of W. 55° the usual easterly winds were uninterrupted.

Over the British Isles the winds were strong in force, chiefly from points between north and west, prevailing northerly at northern stations and westerly in the south; gales were of frequent occurrence.

In France and Spain the prevailing winds were easterly and southerly; in central Europe southerly, and in central Russia southwesterly. Over the Japanese Isles the winds were light and variable, the most frequent directions being from the north. At Behring's Island and Unalashka the prevailing wind was northwest.

In the United States the precipitation was in excess of the average along the Atlantic coast region, in the region of the lower lakes and the Ohio Valley, and in the valley of the Rio Grande. The greatest deficiency occurred in the west Gulf states, where an abnormal heavy precipitation occurred in September. On the Pacific coast the rainfall was only about one-half the average. In Canada the rainfall was everywhere in excess of the usual October average, except over a portion of Ontario and westward over the Northwest Territories. In the British Isles the rainfall was above the average, except in some of the eastern parts of Scotland and southwest of Ireland. The number of rainy days was very large, varying from a minimum of seventeen to a total of twenty-eight experienced on the eastern coast of England. Likewise in central Europe the same characteristics are exhibited, excess and frequency of precipitation; in Germany only one day was entirely free from rain and the amount for the month was one and two-thirds times the average.

In the United States the most marked disturbance of normal conditions was due to the passage of a West India cyclone from the 10th to the 15th, during which the barometer fell to 29.20 (741.7) and gale rose to 50–60 miles per hour.

Over the British Isles the weather was unsettled, with low and unsteady pressure. Numerous depressions appeared and moved with rates and directions unusually variable. Over Russia the weather averaged cloudy; over the southern portion of British India and the Japanese Isles fair; over Behring Sea it was cloudy.

TRACKS OF AREAS OF LOW PRESSURE FOR OCTOBER, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during October, 1885. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

Eight areas of low pressure are charted over the North American continent, the average number of depressions charted for October during the last twelve years being 10.7. Five areas were first observed on the eastern slope of the Rocky Mountains; one was a well-defined tropical storm which passed northward along the Atlantic coast and Florida; one probably originated on the north Pacific coast and passed eastward north of Lake Superior. These areas of low pressure all passed northeast as they approached the Atlantic coast. That traced as number iv was the severest storm of the month, and when first observed was central southwest of Florida on the morning of the 10th, although the reports from that region indicate that it had its origin to the south or southeast of Cuba. The depression was accompanied from the 10th to 15th with dangerous gales and very high tides at the coast stations.

During the night of the 12th secondary areas were formed in the upper Mississippi and Ohio valleys, and one, not traced, was developed off the coast in about longitude N. 38°. These subsidiary depressions were accompanied by general rains, and by an extension of the principal low area to the northwest, the storm-centre was transferred to the Ohio Valley by the

morning of the 13th. After this deviation of the course to the northwest the storm passed to the northeastward over the lower lake region and the Saint Lawrence Valley, attended by severe gales in the Lake region and on the Atlantic coast and in the Maritime Provinces.

Very heavy rains attended the passage of depression number vii, causing destructive freshets in Virginia and West Virginia. When this depression was central in west Nebraska there were indications of a storm in the Gulf of Mexico, south of Louisiana; this storm moved slowly to the northeastward and united with the depression which advanced from the westward on the morning of the 29th. After the union of these low areas the course of movement was to the northeast on the Atlantic coast, the barometer falling rapidly at the centre as the storm increased in energy; the storm apparently reached its maximum energy while the centre was passing over the New Jersey coast, the barometer falling below 29.20 (741.7).

These storms are described in detail in the MONTHLY WEATHER REVIEW for October, 1885, under the heading "Areas of low pressure."

Eleven areas of low pressure are traced over the north Atlantic Ocean, the depressions, as a rule, being accompanied by disturbances of pronounced strength. The general course of direction of the storm-tracks was northeast, and the place of greatest frequency was off the coast of Europe to the southward and northward of the British Isles. One was a continuation of an area of low pressure which first traversed the north American continent; one is continued as a European land depression; three apparently originated off the eastern coast of the United States; two first appeared over mid-ocean; two developed near the southern extremity of Greenland; one passed eastward from the south coast of Iceland, and one apparently originated northwest of the British Isles. Four depressions which developed west of the continent of Europe are traced as land storms.

The following are brief descriptions of the depressions traced over the north Atlantic Ocean:

Number ix was a continuation of land depression number viii traced for September. By the morning of October 1st the storm-centre had passed off the Florida coast, and the wind increased to hurricane force at sea towards the evening of that date; on the 2d the storm-centre was in the neighborhood of Cape Hatteras, attended by moderate to strong east gales at sea, with central pressure about 29.75 (755.6); passing northward along the coast this low area probably united with that charted as number i on the 4th. Number x first appeared southeast of Iceland on the 2d, with pressure about 28.85 (732.8); on the 3d the depression disappeared northeastward off the coast of Norway.

Number xi passed eastward from Iceland to the west coast of Norway from the 4th to the 6th, and, moving northeast along the coast, disappeared north of the seventieth parallel during the 7th. This storm exhibited maximum energy on the 5th, when pressure below 29.00 (736.6) was shown. Number xii was a continuation of land depression number i and passed northeast off the Labrador coast during the night of the 5th, disappearing over the southern extremity of Greenland on the 7th. Number xiii was a storm of moderate energy which apparently developed south of Nova Scotia and passed northeastward over Newfoundland during the 7th and 8th. Number xiv first appeared over the northern extremity of Scotland on the 8th, with pressure below 29.20 (741.7), and moved slowly eastward over the North Sea during that and the two following dates, with evidence of considerable energy, after which it apparently disappeared to the northward over Scandinavia.

Number xv apparently advanced from the sub-tropical region north of the West Indies, and, moving northeastward, passed over the southeast part of Newfoundland during the 10th, whence it circled northward and disappeared off the southwest coast of Greenland on the 12th. Subsequent to the 9th this depression developed great energy, and caused an immense amount of damage on the Labrador coast during the 11th, over seventy vessels and probably three hundred lives being reported as lost; on this date the depression had central pressure about 29.10 (739.1) at noon (Greenwich mean time). Number xvi was a storm of moderate strength which passed southeast over mid-ocean during the 14th and 15th.

From the 16th to 22d, inclusive, an area of low pressure was central southwest of the Azores, the weather over the balance of the ocean during these dates being generally settled. Number xvii was a depression of moderate energy and passed northeastward to the south of Nova Scotia and Newfoundland during the 24th and 25th. Numbers xviii and xix united over mid-ocean on the 29th, the former advancing from the northwest and the latter from the southwest. Number xviii exhibited pressure below 29.20 (741.7) on the 28th, after which there was a loss of energy apparent, until the 30th and 31st, when violent disturbances attended the passage of the storm over the British Isles.

Fourteen depressions are traced over the continent of Europe, the tracks being most numerous over Scandinavia, although a considerable proportion of the number charted appear in the vicinity of the British Isles and on the north coast of the Mediterranean Sea. The general course of direction of the storm-tracks was north of east, and the rate of progression was, in general, slow.

The following are brief descriptions of the depressions traced:

Number xx was central on the 1st northeast of Scotland, with pressure about 28.80 (731.5), whence it passed east to the Baltic Sea by the 2d and disappeared over Finland. Number xxi was a depression of slight energy which appeared over central Russia on the 1st and passed eastward into Asia during the 3d, where it is traced south of east until the 5th. Number xxii was probably subsidiary to number xxiii and apparently developed over southern France on the 9th, thence moving east and north until its union with number xxiii on the 11th.

Number xxiii was central over the English Channel on the 10th, with pressure below 29.00 (736.6). During this date gales of hurricane force, from w. and nw., occurred over the ocean from W. 25° eastward over the Bay of Biscay to the French coast. By the 11th the storm had moved eastward into Austro-Hungary, with pressure about .25 higher than on the preceding day, whence it passed southeast in the direction of the Black Sea and disappeared after the 12th. Number xxiv is first charted over the southern extremity of Sweden, under date of the 12th, whence it moved north of east over the Baltic Sea and disappeared over Finland during the 13th. This depression had pressure below 29.40 (746.7) on the 12th, but commenced to fill up after that date.

Number xxv appeared on the 14th off the southwest coast of Sicily and extended its influence westward to the coast of Spain, where high northerly gales were reported; on the 15th its centre had moved northwestward to the Balearic Islands, pressures down to 29.60 (751.8), and high winds, being reported at Marseilles, and southerly gales at Tunis and Palermo; on the 16th its distinct northwestward course had extended into the ocean and was central in N. 48°, W. 7°, surrounding vessels and land stations reporting violent winds.

Number xxvi appeared on the 15th over the Arctic Ocean north of the White Sea, and on the 17th the pressure had fallen to 29.52 (749.8) at Gjæsvær, with low pressure extending southeastward to the sixtieth parallel; on the 18th the centre of the depression was transferred in the same direction to N. 60°, W. 50°, where pressures as low as 29.40 (746.7) were reported; on the 19th the centre had moved westward about fifteen degrees with the same intensity of depression, after which date it is no longer traced. On the 17th a small subsidiary whirl appeared in the Baltic, with rains and winds, continuing to the 18th.

Number xxvii developed off the coast of Portugal, where general rains were reported on the 18th; on the 19th the centre of the depression was within the Bay of Biscay, with high

gales on the French coast; thence it moved rapidly eastward with falling barometer, and on the 20th is charted in Austro-Hungary, where the pressure ranged from 29.46 (748.3) to 29.56 (750.8); after that date it gradually filled up and is last traced on the 22d over the northern border of the Black Sea.

Number xxviii was apparent as a depression on the coast of Norway on the 19th and on the 20th had moved southeastward across the Baltic Sea, where high winds and rain marked its course, followed by the coldest weather experienced during the season up to that date. The storm continued moving westward, with pressures ranging from 29.30 (744.2) to 29.45 (748.0), and its path is traced to the Ural Mountains on the 22d, after which it passed beyond the region covered by the international reports.

Number xxix appeared suddenly on the 21st as a well developed depression of considerable energy off the south coast of the British Isles; vessels near the centre of the storm reported the pressure at 29.50 (749.3); general rains prevailed on the northwest coast of France to the southeast of the centre of the depression, and high gales extended over quadrants from southeast to northwest; on the 22d the centre had moved eastward to the eastern end of the British Channel, with no change of pressure; on the 23d the storm had gathered new energy by concentration, and its centre moved backward to nearly its original position, exhibiting pressures ranging between 29.30 (744.2) and 29.40 (746.7); on the following day, the 24th, the pressure had further fallen to 29.20 (741.7) over Norway, with steep gradients in all directions, but especially to the southeast; high gales prevailed over Germany, the Netherlands, northern France and the adjacent ocean, and England. On the 25th the course of the depression had continued northeastward across the North Sea to Denmark, with pressure rising to 29.30 (744.2) and on the 26th it faded out in the Baltic Sea.

Number xxx was a depression central over the Gulf of Genoa on the 25th, with pressures ranging from 29.52 (749.8) to 29.56 (750.8); taking a north-northeast course it disappeared in Austro-Hungary on the following day.

Number xxxi appeared off the coast of Iceland on the 25th as a depression of unusual energy; pressures at Stykkisholm and Thorshavn being 29.14 (740.1) and 29.21 (741.9), respectively, being a fall at Thorshavn of 0.5 inch in twenty-four hours. This extraordinary fall of pressure continued throughout the 25th, and on the 26th the pressure at Thorshavn was 28.64 (727.4), with steep gradients to the southwest; at N. 57°, W. 15° the gradient to the centre was 0.4 inch, and at N. 53°, W. 24°, a whole inch; violent gales prevailed southward over Europe and the Atlantic to the fortieth parallel. Throughout the 26th and to noon of the 27th the centre of the storm had little if any progressive motion; meanwhile an extensive area of high pressure, central over the Azores, spread northward, thereby increasing the already steep gradients to the southward of the centre of the depression, where the pressure at Thorshavn was 28.76 (730.5); from Thorshavn to N. 51°, W. 18° the gradient was one inch and a quarter. On the 28th the depression had moved eastward to the Baltic and on the 29th northeastward to the White Sea, with gradually increasing pressures.

Number xxxii was a depression charted on the 29th in Little Russia, where pressures were about 29.50 (749.3), and general rains prevailed. Number xxxiii first appeared in the northern Adriatic Sea on the 29th, where pressures below 29.60 (751.8) were reported; it took a course north of east to Roumania, and thence turned northward on the 31st, with increasing energy, continuing its course beyond the Gulf of Finland in the following month.

Seven depressions are charted on the eastern coast of Asia, the Japanese Isles, and in Behring Sea. Numbers xxxv, xxxviii, and xl, traced across the Japanese Isles, had a northeasterly trend and were accompanied by general rains; of these, number xxxviii appeared south of the island of Formosa on the 13th and reached southern Japan on the 15th, where the barometer ranged from 29.50 (749.3) to 29.60 (751.8), these being the lowest pressures of the month in the Japanese Isles. The remaining depressions were traced from west to east across the Aleutian Islands and Behring Sea, number xxxix being traced back as far as the Island of Yesso; of these, the pressure in number xxxiv was below 29.2 (741.7) on the 1st, increasing on the following days; number xxxvi was marked by continuously falling pressure, so far as could be indicated from the stations reporting, reaching 29.11 (739.4) at Saint Michael's on the 9th; number xxxvii remained stationary over the west coast of Alaska from the 12th to the 14th, inclusive, with the pressure at the centre ranging from 29.00 (736.6) to 28.95 (735.3); number xxxix is located on the 16th, 17th, and 18th by the pressures, 28.92 (734.6), 28.70 (729.0), 28.66 (728.0), reported on those days at Unalashka. The last is the lowest recorded pressure of the month.

TRACKS OF AREAS OF LOW PRESSURE FOR SEPTEMBER, 1883.

Chart iii for September, 1883, shows the approximate paths of the principal areas of low pressure that appeared in the northern hemisphere during the month. This chart continues the series of international charts begun in November, 1877, and the data used in its preparation are obtained from the same sources mentioned above (storm-tracks for October, 1885); the marine observations, however, are neither so numerous nor so complete as in that month.

Nine areas of low pressure are traced over the North American continent. The mean latitude of the tracks of these areas was slightly to the north of the region of average storm frequency of the month. One depression developed and disappeared within the limits of the stations after moving to the west and south near the centre of the continent; and the only tropical storm observed during the month has been clearly traced from the West Indies to the Atlantic coast of the United States, where it apparently lost energy after passing into the interior. These storms are described in detail in the MONTHLY WEATHER REVIEW for September, 1883, under the heading "Areas of low barometer."

Nine depressions are traced over the north Atlantic Ocean, five of which were continuations of areas of low pressure which first traversed the North American continent. Two storms are traced across the ocean; three pursued a northeast course to the vicinity of Iceland; one developed over mid-ocean, and one aparently originated in the sub-tropical region north of the West Indies. Number x was a storm of great energy and continued ocean depression number xvi charted for August. During the 1st and 2d it passed north of east over the lower portion of the British Isles, with central pressure about 28.40 (721.3), and was attended by storms of great violence; subsequent to the 2d it is traced and described as European land depression number xix.

Number xi was a continuation of land depression number i which first appeared over the north American continent and passed northeastward over the northern extremity of Newfoundland during the 3d. The depression moved northeastward to the vicinity of Iceland by the 6th, and was then deflected slightly to the southward, passing to the north of Scotland, and disappearing off the coast of Norway during the 7th. The depression augmented energy during its passage, and upon its arrival in European waters had barometric pressure ranging below 29.40 (746.7).

Number xii was a continuation of land depression number ii which passed off the coast of Labrador in about N. 55° during the night of the 5th. The storm moved northeast to Iceland, where it merged into an area of low pressure which remained nearly stationary over that locality from the 8th to the 10th, inclusive. The barometric pressure within this area decreased rapidly to about 29.00 (736.6) on the 9th, after which date there was a rapid increase. Number xiii continued land depression number iii which passed northeast through the Strait of Belle Isle during the early morning of the 10th. This storm moved northeast and disappeared west of Iceland on

the 12th, with pressure ranging below 29.00 (736.6) during the 11th and 12th.

Number xiv first appeared east of Newfoundland on the 14th, and, pursuing an irregular easterly course across the Atlantic, disappeared south of Ireland on the 21st. This storm increased in energy until the 16th, when central pressure below 29.00 (736.6) was shown; after this date the depression commenced to fill up. A noticeable feature in connection with this depression was its slow rate of progression, which was doubtless due to the prevalence of an area of high barometer which overspread Europe until the 18th. Number xv was a continuation of land depression number vi which passed northeast off the coast of Labrador, in about N. 54°, on the 18th. The depression moved northeast after leaving the coast and disappeared in the direction of Greenland during the 19th, with pressure about 29.60 (751.8) and fresh gales.

Number xvi apparently developed south of Nova Scotia during the early morning of the 18th, and moved in a generally north of east direction to the north of Scotland by the 26th, after which it is continued as a European land depression. This storm developed great energy during its passage over the ocean, and exhibited pressure below 29.00 (736.6) during the 22d, 23d, and 24th. Number xvii originated in the vicinity of the West Indies, and, passing northward, is first charted under date of the 21st in N. 35°, W. 67°, whence it circled southeastward and disappeared during the 24th. This depression possessed small energy, and the minimum pressure, 29.60 (751.8), was shown on the 22d, after which it commenced to fill up.

Number xviii was a continuation of land depression number viii which passed eastward over the Gulf of Saint Lawrence during the night of the 25th. By the morning of the 26th it had moved north of east over Newfoundland, with central pressure about 29.00 (736.6), after which date it disappeared to the northeastward.

Six depressions (numbers xix to xxiv, inclusive) are traced over the continent of Europe, of which but one appeared south of the fiftieth parallel; two were continuations of areas of low pressure which first traversed the north Atlantic Ocean; one first appeared on the south coast of Spain and disappeared near Sicily; one apparently originated over the Baltic Sea and circled eastward; one first appeared over southern Poland and moved northeastward, and one apparently advanced from the Arctic Ocean and moved southeast over Scandinavia, Finland, and the White Sea into northern Russia.

Number xix continued ocean depression number x and passed northeast over the North Sea during the 3d; thence moving north it was central off the coast of Norway during the 4th, 5th, and 6th, after which it disappeared to the northward. This storm had central pressure about 29.10 (739.1) during the 3d and 4th, but filled up rapidly after the latter date. Number xx was a storm of slight energy which is traced from the south of Spain over Sardinia and to the south of Sicily from the 11th to the 14th. The lowest pressure shown during the passage of this depression was 29.75 (755.6) on the 13th. Number xxi first appeared over northern Scandinavia on the 18th and passed southeast into the White Sea by the 19th; by the 20th it had moved into northern Russia, where it disappeared during that date. This storm attained its greatest strength on the 19th, when pressure below 29.40 (746.7) was shown.

Number xxii first appeared on the 20th over the Baltic Sea, whence it circled south of east through the Baltic provinces by the 21st and moved north of east into Russia by the 22d, disappearing to the eastward after the latter date. This storm had pressure about 29.10 (739.1) on the 21st, but filled up rapidly after circling to the northeastward. Number xxiii is first charted in southern Poland under date of the 23d, whence it circled northeastward to the vicinity of the White Sea by the 25th. This storm had pressure about 29.50 (749.3) during the 23d and 24th, which fell to about 29.20 (741.7) on the 25th, during which date the depression passed beyond the region of observation.

Number xxiv was a continuation of ocean depression number xvi which passed over the north of Scotland during the 26th; by noon (Greenwich mean time) of the 27th it was central over the North Sea off the southern extremity of Norway, whence it circled southward by the 29th, when it was located off the northern coast of the Netherlands. Pursuing a southerly course it was central on the 30th over Belgium, whence it apparently passed into northern France. This storm had central pressure about 29.10 (739.1) on the 27th, after which there was an appreciable rise, although the depression continued to evidence great energy.

Eight areas of low pressure are traced off the eastern coast of Asia, over the Japanese Islands and in Behring Sea, and the north Pacific ocean, three of which are charted over the Japanese Islands; one first appeared in the China Sea and is given a probable track northeastward; one passed northeast through the Sea of Japan; one apparently originated in the vicinity of the Kooril Islands; two traversed Behring Sea, one of which is traced from the south coast of Yesso; and one first appeared to the south of the Aleutian Islands and moved eastward.

Number xxv is given a probable track southeastward from the Kooril Islands during the 4th and 5th, its presence in that neighborhood being indicated by vessel reports which show that fresh gales and rain were encountered during the two days for which the depression is traced.

Number xxvi first appeared off the south coast of Yesso on the 7th and moving in a generally northeast direction disappeared over the western portion of Alaska during the 11th. This depression gathered energy during its passage, the pressure within its area decreasing from 29.60 (751.8) on the 7th to below 29.00 (736.6) on the 11th. Number xxvii is first charted in the China Sea, under date of the 9th, whence it moved northeast and disappeared off the northeast coast of Hondo during the 13th. This depression developed great energy during the 11th and 12th, when central pressure ranging below 29.40 (746.7) was exhibited.

Number xxviii passed eastward over Behring Sea during the 13th and 14th, and was central over the southern portion of Alaska on the 15th, whence it passed eastward and disappeared off the western coast of British America. This storm had pressure about 29.10 (739.1) during the 14th, 15th, and 16th. Number xxix appeared on the 18th about seven degrees south of the extremity of the Alaska Peninsula and moved eastward during that and the following date, after which its course cannot be traced, owing to an absence of reports. Vessel reports indicate that the depression possessed great energy, with pressure ranging to about 29.10 (739.1) on the 18th.

Number xxx first appeared off the south coast of Hondo on the 19th, with pressure about 29.80 (756.9), and moved slowly eastward by the 20th, after which date reports fail to locate its presence. Number xxxi was a depression of fair energy, with pressure about 29.80 (756.9), which passed northeastward over the northern portion of the Sea of Japan during the 22d and 23d, after which it apparently dissipated. Number xxxii was an area of low pressure which prevailed over the eastern portion of Behring Sea and the southwest part of Alaska from the 23d to the 30th, inclusive. During this period the barometric pressure within the area ranged from 29.30 (744.2) to 29.60 (751.8).

SPECIAL NOTES.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semiannual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level;

at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

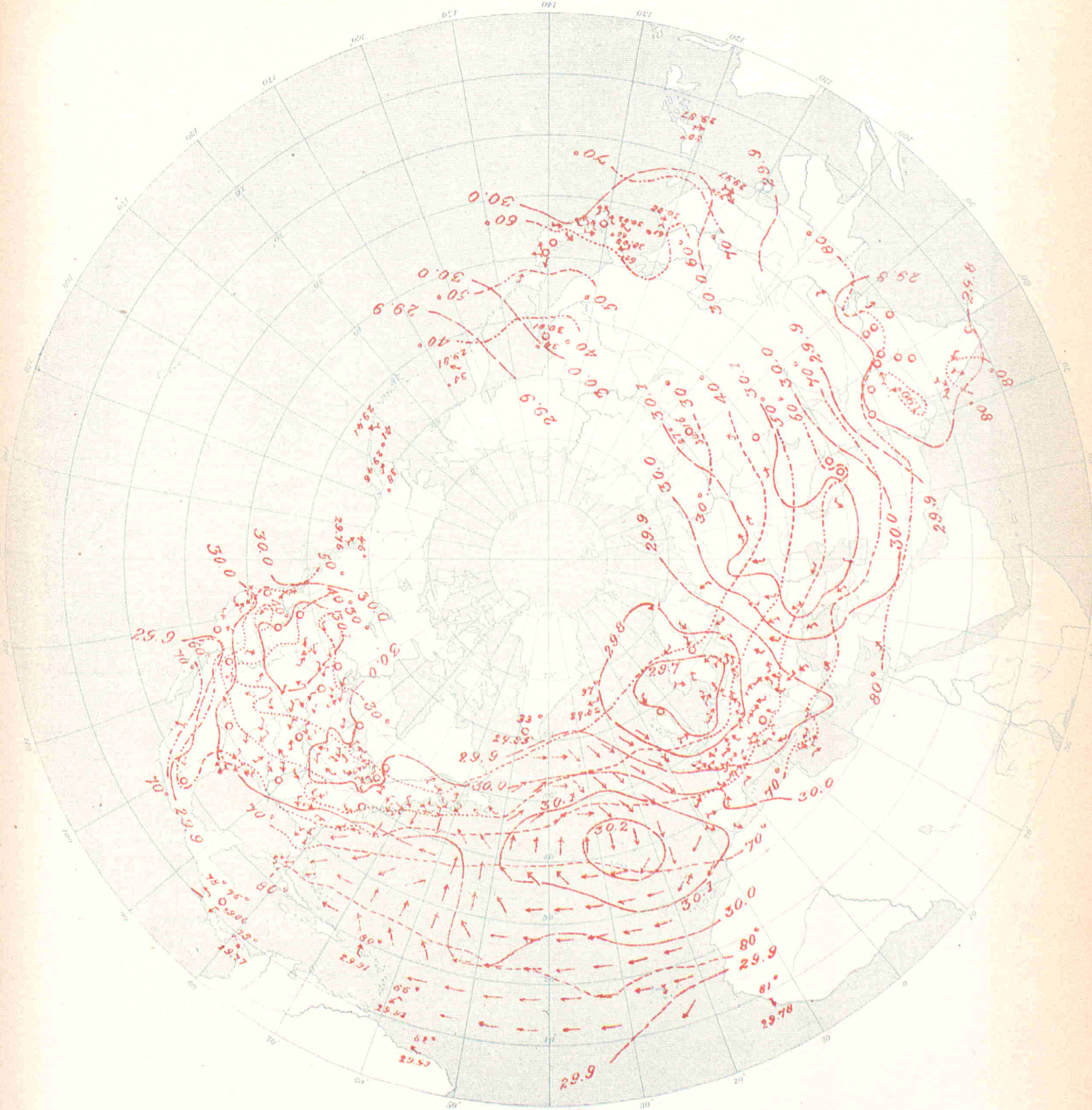
International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

W. B. HAZEN,
Brig. & Bvt. Maj. Gen'l,
Chief Signal Officer, U. S. A.

International Chart II. October, 1885. Isobars, Isotherms, and Winds.

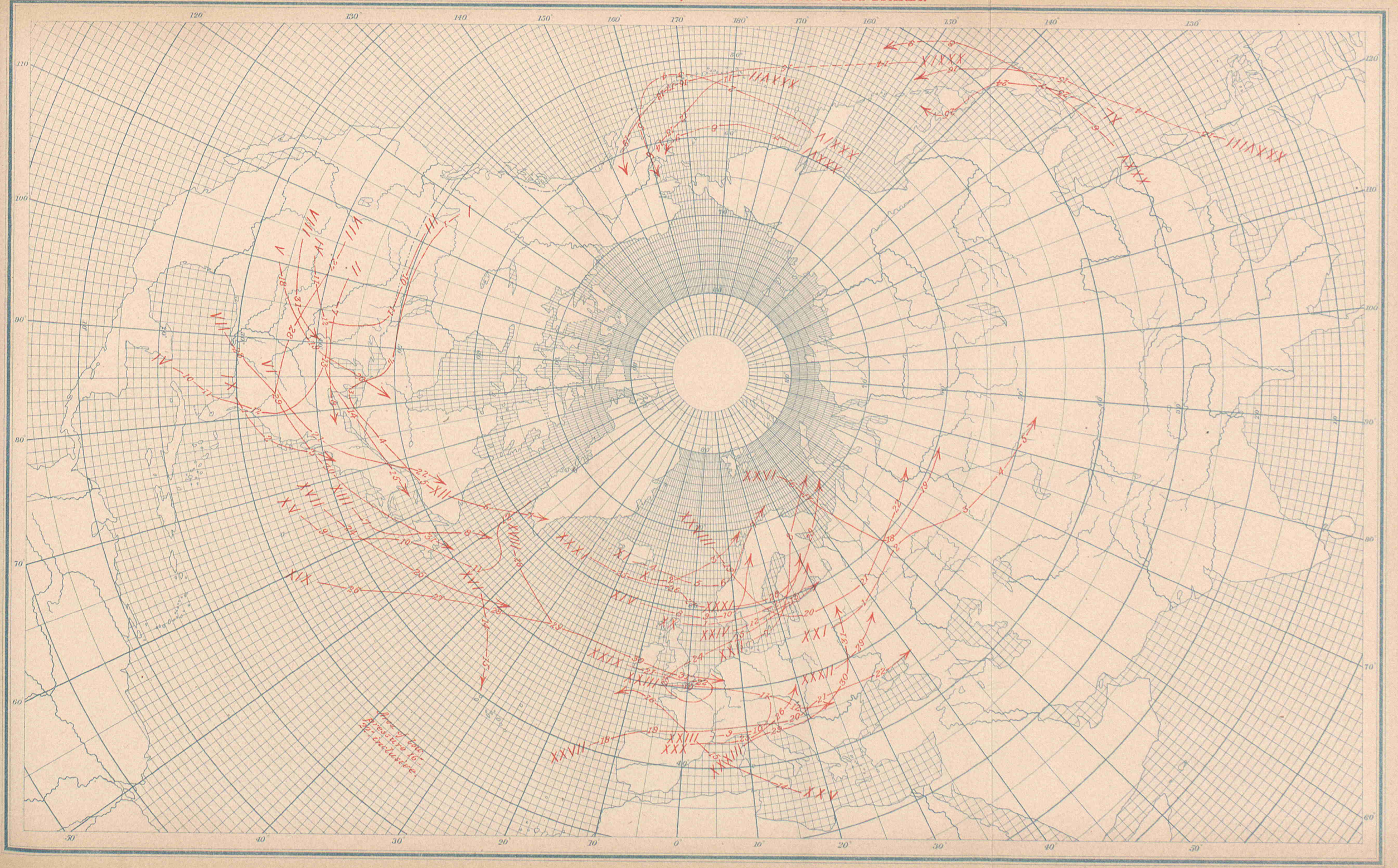


UNITED STATES OF AMERICA.

By Order of the Secretary of War.
W.B.Hazen, Chief Signal Officer.

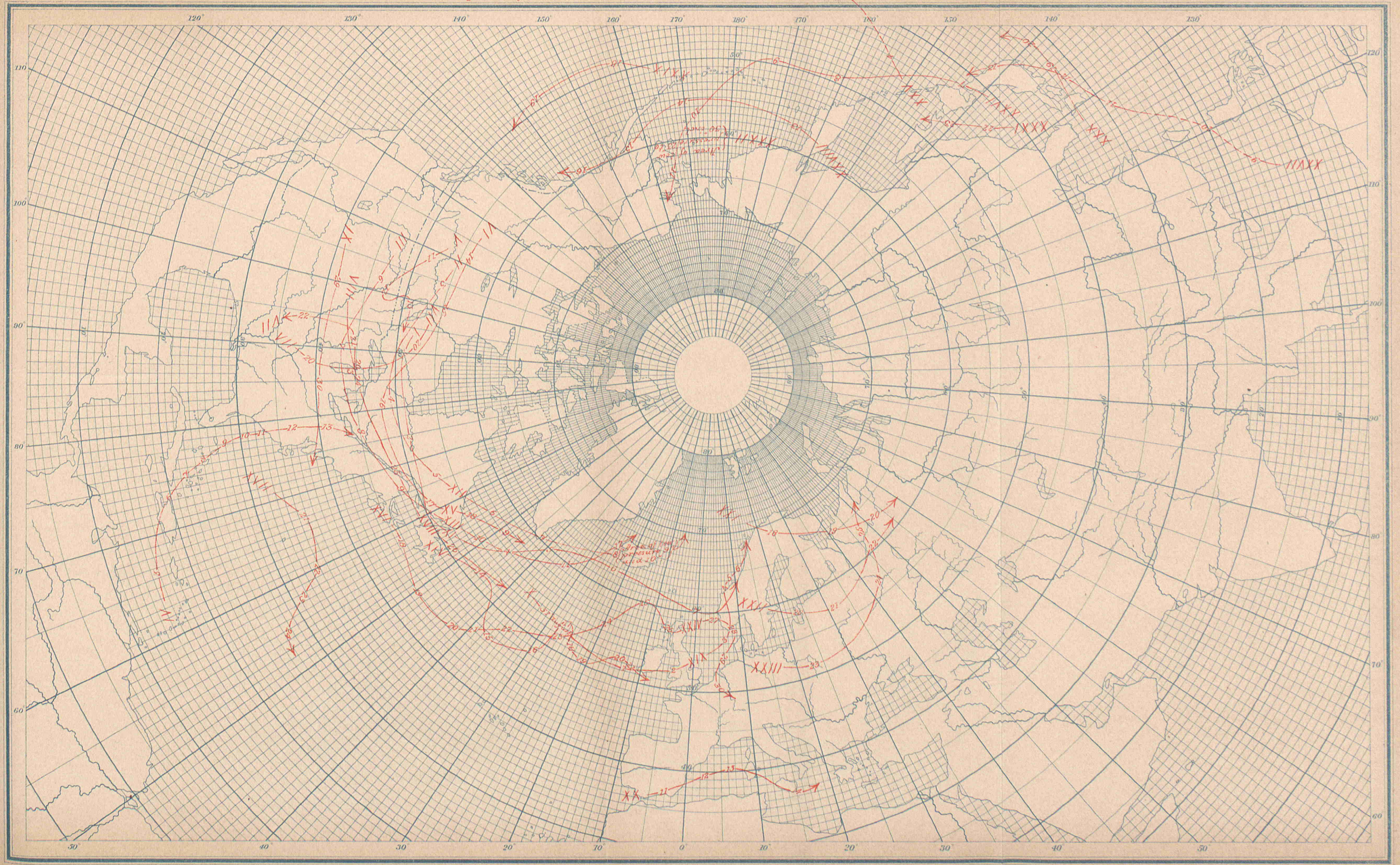
Signal Office Lith.

International Chart III. October, 1885. Tracks of Areas of Low Pressure.



Signal Office Lith.

International Chart III. September, 1883. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October, 1885—Continued.

Name of vessel.	Captain.
WARREN LINE.	
Br. s. s. Iowa	Capt. Samuel Walters.
Norseman	E. Maddox.
Roman	D. Williams.
WHITE CROSS LINE.	
Dtch. Belg. s. s. De Ruyter	J. J. Brarens.
Jan Breydel	H. Meyer.
Pieter de Coninck	E. Smit.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Britannic	H. Perry
Coltic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Bassano	T. J. Moore.
Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	B. H. Rogers.
Otranto	F. Kerr.
Salerno	Wm. Abbott.
Sorrento	J. T. Rogers, R N.R.
MISCELLANEOUS.	
Br. s. s. Bedford	Thos Aikenhead.
Ger. Brutus	J. A. Voege.
Br. Camden	S. R. Chandler.
Cranbrook	John W. Harvey.
Dago	W. H. Bisset.
Edith Godden	John H. Bennett.
El Callao	Jos. Scholtz.
Elstow	Thos. Robertson.
Glenochil	Robert Hay.
Joseph Ferens	John J. Mehegan.
Am. Lord Lansdowne	C. H. Baskfill.
Br. Lorenzo D. Baker	W. F. Wiley.
Monte Rosa	W. T. Irving.
Sp. Navarro	S de Aldecocea.
Fr. Neustria	P. Verriérs.
Phœnix	B. Davies.
Pomona	W. H. Thomas.
Ger. Peconic	John Jenken.
Br. Ralatea	J. Viereck.
Br. Roman	David Williams.
Rydal Water	Ch. Offl. H. Callieghan.
Saint Ronans	Capt. Henry Campbell.
Stag	Jas. Adams.
Strathleven	C. W. Pearson.
Sulina	Thos. Potter.
Span. Valentia	Ch Offl. Ant. Estopiñá.
Br. Vertumnus	Capt. John Legoe.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Am. Advance	Jas. R. Beers.
Ailsa	J. W. Sansom.
Alaska	G. S. Murray.
Albano	H. R. Hughes.
Alene	E. J. Solders.
Alvo	D. Williams.
Arizona	Sam. Brooks.
Aurania	W. H. P. Hains.
Baltic	R. E. Bence.
Belg. Belgenland	W. A. Boynon.
Br. Bothnia	Thos. Robers.
Britannic	H. Perry.
Br. Celtic	Benj. Gleadell.
Am. Chalmette	Robert B. Quick.
City of Alexandria	J. W. Reynolds.
Br. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Chester	H. Condron.
Am. City of Puebla	John Deukin.
Br. City of Richmond	A. W. Lewis.
Am. Claribel	T. M. McKnight.
Colon	Chas. C Lima.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—Con.	
Crescent City	Capt. Jas. L. Lockwood.
Ger. Elder	H. Helmers.
Br. Elysia	James Brown.
Ger. Ems	W. Willigerod.
Br. Etruria	T. Cook.
Br. Gallia	M. Murphy.
Dan. Geiser	F. V. Schierbeck.
Ger. Lessing	B. Voss.
Dtch. P. Caland	T. H. Bonjer.
Belg. Pennland	R. Weyer.
Br. Republic	P. J. Irving.
Belg. Rhynland	J. C. Jamison.
Am. San Marcos	Ch. off. A. B. Connor.
Saratoga	Capt. John McIntosh.
Dtch. Schiedam	G. Bakker.
Br. Servia	W. McMickan.
Fr. St. Laurent	M. de Jousselin.
Br. State of Georgia	G. Moodie.
Belg. Switzerland	H. Buschmann.
Dtch. W. A. Scholten	G. J. Vis.
Belg. Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Br. Wisconsin	Capt. Edw. Bentley.
Wyoming	C. L. Rigby.
Dtch. Zaandam	A. Potjer.
SAILING VESSELS.	
Br. bk. Abyssinian	John Hughes.
Am. schr. Abbie H. Gheen	W. W. Gheen.
Br. bg. Achsah	Alfred M. Shaw.
It. bk. Agostino Rombo	Vincenzo Basso.
Am. bk. Albemarle	W. H. Forbes.
bk. Antonio Sala	F. H. Mitchell.
Am. bg. Arcot	J. W. Cates.
Nor. bk. Artemis	E. E. Moe.
Am. bg. Atalanta	H. S. Aldrich.
Ger. bg. Betty	S. Wohlmuth.
Br. bk. Childwall	T. O. Watson.
sp. Chas. S. Whitney	Geo. D. Spicer.
bkt. Corisande	Daniel Thoms.
Ger. sp. Derby	B. Fortmann.
Ger. bk. Diamant	L. Haesloop.
bg. Doctor Lasker	H. Buschenhenke.
Br. sp. E. J. Spicer	Lewis Spicer.
Ettie H. Lister	Smith D. Mason.
Br. bk. Exile	George J. Pearce.
Am. schr. Florence Rogers	J. S. F. McLeod.
Ger. bk. Freiheit	H. Spieska
Dan. Galeon	H. H Kalsboll.
Am. sp. Gamaliel	C. S. Powell.
Br. bkt. George	W. H. Champlain.
Am. schr. Georgia	E. G. Coffin.
Ger. bk. George Washington	J. Probst, jr.
Am. schr. Governor Hall	John Cain, jr.
Nor. bk. Grundloven	O. G. Ellingsen.
Br. bg. Harry & Aubrey	J. N Tedford.
Ger. sp. Hedwig	Th. Minsson.
Ger. bk. Heinrich & Tonio	L. Myer.
Am. bk. Idaho	W. S. Richardson.
Br. sp. Iolanthe	Geo. Scott.
Am. bg. John Wesley	J. H. Hines.
Br. bg. Kenilworth	P. Doig.
Am. L. F. Munson	J. A. Smith.
Br. bg. Lilian	H. F. Schive.
Nor. bk. Lovspring	G. Thomsen.
Am. sp. Lucy A. Nickels	Ch. Off. W. Oates.
Br. bkt. Lydia	Capt. Geo. Lowery.
Am. schr. Maggie Abbott	D. C. McIntosh.
bg. Mary Fink	Daniel B. Darrah.
Br. bk. Mistletoe	Israel L. Delap.
schr. Nelson Bartlett	Samuel Watts.
Ger. sp. Palme	William Bahls.
bgt. Raven	M. Nash.
Am. sp. Rembrandt	J. W. McGilvery.
Br. bk River Ganges	Thos. Nalle.
schr. Sarah D. J. Rawson	Thos. D. French.
Br. sp. Servia	E. M. Smith.
Br. bk. Sodium	Alex. Wilson.
Br. bk. Strathmuir	A. W. Flemming.
Am. Templar	R Roberts.
Br. bk. Tuck Sing	G. N. Ryder.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Ger. sp. Union	Capt. H Fokken.
It. bk. Vincenzo Accame	N. V. Lavagna.
Ger. Western Chief	F Sander.
Br. bk. Winifred	N. P. Dutton.
sp. Winifred	R. McDonald.
Am. bk. Xenia	N E. Reynolds.
BRITISH NAVAL.	
H. M. S. Alexandra	Rawson, C. B
H. M. S. Audacious	H. L. Pearson.
H. M. S. Briton	R. M. Lloyd.
H. M. S. Bacchante	A. W. Moore.
H. M. S Cleopatra	H. N. Hippisley.
H. M. S. Champion	A. T. Powlett.
H. M. S. Condor	W. C. H. Domville.
H. M. S. Cockatrice	John Hayes.
H. M. S Constance	F. P. Doughty.
H. M. S. Cormorant	Nicolls.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dolphin	S. M. E. Wilmot.
H. M. S. Diamond	F. S. Clayton.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Frolic	A. A. C. Parr.
H. M. S. Garnet	H. H Boys.
H. M. S. Himalaya	Palliser.
H. M. S. Heroine	Blackburn.
H. M. S. Lark	J. F. Pullen
H. M. S. Mutine	F. Edwards.
H. M. S. Mariner	Com. J. Durnford.
H. M. S. Orontes	Capt C. B Theobald.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson.
H. M. S. Ruby	C. F. Hotham, C.B.
H. M. S. Sylvia	P. Aldrich.
H. M. S. Satellite	A. H. Alington.
H. M. S. Sappho	W. F. Castle.
H. M. S. Swiftsure	Hon. T. S. Brand.
H. M. S. Tamar	Capt. J. B. Warren.
H. M. S. Turquoise	R. Woodward.
PORTUGUESE NAVAL.	
H. P. M. S. Tomega	José d'Almeida d'Avila.
DUTCH NAVAL.	
Bromo	
Prins Hendrick der Nederlander	
UNITED STATES NAVAL.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Enterprise	A. S. Baker.
U. S. S. Galena	Jas. G. Green.
U. S. S. Hartford	E. P. Lull.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	C. D. Sigsbey.
U. S. S. Shenandoah	C. S. Norton.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	Silas W. Terry.
U. S. S. Portsmouth	L. A. Beardsly.
U. S. S. Powhatan	N. Ludlow.
U. S. S. Quinnebaug	C E. Clark.
U. S. S. Ranger	E. K. Moore.
U. S. S. Saratoga	Chas. S. Norton.
U. S. S. Shenandoah	E. T. Strong.
U. S. S. Swatara	Robert Boyd.
U. S. S. Tennessee	R. L. Phythian.
U. S. S. Trenton	F. M. Green.
U. S. S. Yantic	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October, 1885.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Hermannstadt	Prof. A. Gottschling.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Jueig, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	C. S. Duncombe.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Jas. R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B.	Miss Andrews.
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B.	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B.	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B.	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T.	John Ewart.
Minnedosa, N. W. T.	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Sydney, C. B.	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S.	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F.	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Enstace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Pollpré, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	E. Preller.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Iserwaun.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Moyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. F. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Huttori.
Awomori	K. Ogawa.
Hakodate	K. Ando.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.

Stations.	Observers.
JAPANESE—*Continued.*	
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	H. Yoshino and Tanno.
Numadzu	T. Ohgi.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Profs. M. Leal & Forres.
Mazatlan	F. Cuyano, C. E.
Mexico	The Staff.
Puebla	Prof P. Spina.
Zacatecas	J A Bonilla M E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
Serra da Estrella	
ROUMANIAN.	
Bucharest	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Szoliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Koslov	
Lgov	R. I. Seaweljew, Engineer.
Libau	E. Quass.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schomberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Potl	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Semipalatinsk	Major Lasarew.
Sevastopol	Colonobr.
Starol Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Yeniseisk	Wishnowzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jellu.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF NOVEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JANUARY, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Manitoban	R. Carruthers.
Prussian	Alex. McDougall.
Sarmatian	Wm. Richardson.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Prince	Samuel Nowell.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Lord Gough	E. M. Hughes.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
Australia	Alex. McRichie.
Circassia	A. Campbell.
City of Rome	R. D. Munro.
Columbia	R. T. Garvie.
Devonia	Hugh Young.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ATLANTIC TRANSPORTAION CO.	
Br. s. s. Surrey	H. Murrell.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Albano	H. R. Hughes.
Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Antillas	B. Morán.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. Middlestadt.
CROMWELL LINE.	
Am. s. s. Louisiana	E. V. Gager.
Hudson	H. R. Freeman.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	P. Whealan.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Europa	L. A. Kessal.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Neustria	P. Verriérs.
FURNESS LINE.	
Br. s. s. Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
Canada	G. de Kersabiec.
Labrador	P. de Hauterivè.
Normandiè	E. Franguel.
St. Germain	E. Traub.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. W. H. Bates.
Warwick	Capt. P. F. Lobbett.
GUION LINE.	
Br. s. s. Abyssinia	J. Price, R. N. R.
Alaska	Geo. S. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Bigby.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	Capt W. Kurlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Euclid	Alex. W. Pym.
Hevelius	John Carroll.
Belg. Hipparchus	W. Kelly.
Olbers	Jas Clark.
Rosse	Jas. Dixon.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Colorado	Jas. Daniels.
Lampasas	M. B. Crowell.
Rio Grande	Jas. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
El Dorado	J. W. Hawthorne.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Egypt	R. W. Grace.
England	T. P. Hedley.
Erin	John Robinson.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
Gottardo	G. Dilliberto.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	F. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Elder	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	R. Ringk.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Nürnberg	A. Jaeger.
Werra	R. Bussius.
Weser	H. Bruns.

Name of vessel.	Captain.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	Capt. John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
Juniata	S. L. Askins.
Chattahoochee	J. W. Catherine.
Nacoochee	Ch. Offi. C. G. S. Burg.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	Capt. H. G. Morse.
Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	T. Wallace.
Columbia	F. Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.
Santa Rosa	Chas. B. Johnson.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Australia	C. C. Brough.
City of New York	R. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	W. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	J. M. Caverly.
Granada	M. Connolly.
San Blas	T. Chapman.
San José	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Bermuda	R. Fraser.
Muriel	G. S. Locke.
Orinoco	J. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess.
Valencia	W. Woodrick.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Sliorendrogt.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. von der Zee.
ROYAL WEST INDIAN MAIL S. S. Co. OF AMSTERDAM.	
Dtch. s. s. Oranje Nassau	J. A. J. Lacrooy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nebraska	A. G. Brace.
State of Nevada	John A. Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geisor	F. V. Schierbeck.
Hekla	A. G. Thomsen.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s. Advance	Jas. R. Beers.
Merrimack	W. Weir.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Missouri	R. Poland.
Norseman	E. Maddox.
Roman	D. Williams.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF NOVEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JANUARY, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, NOVEMBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.															
						Actual		Reduced.					Directions.									Total Movement.						
				Feet.	Metrs.	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
AUSTRALIAN.	° ′	° ′																										
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.99	761.7	30.12	765.0	61.6	16.4	57	1	.....	2	4	9	6	1	2	5	7661	12329	4	0.04	1.0
Hobart Town *a*	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.73	755.1	29.92	760.0	52.7	11.5	83	1	7	8	5	7	1	.....	.....	.....	.....	.....	6	7.53	191.3
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.96	761.0	30.04	763.0	57.6	14.2	76	2	.....	5	4	6	8	4	1	.....	.....	.....	7	3.54	89.9
AUSTRIAN.																												
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.48	748.7	30.04	763.0	46.8	8.2	78	.....	2	.....	.....	3	4	2	15	4	.....	.....	8	0.78	19.8
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.30	744.1	30.10	764.5	38.8	3.8	86	.....	3	5	2	2	.....	5	13	.....	.....	.....	8	1.61	40.8
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.17	740.8	30.07	763.8	41.7	5.4	79	7	.....	.....	.....	6	.....	.....	.....	17	.....	.....	8	0.76	19.4
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.63	727 2	30.02	762.5	39.7	4.3	91	1	1	3	2	.....	1	14	5	3	.....	.....	8	3.91	99.4
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.08	738.5	30.11	764.8	37.6	3.1	83	1	3	5	5	2	4	4	6	.....	.....	.....	7	1.89	48.1
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.84	758.0	29.96	760.9	54.9	12.7	76	1	3	.....	2	1	2	8	8	5	.....	.....	7	4.42	112.3
Szatlmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.59	751.6	30.08	764.0	46.0	7.8	76	3	2	3	1	5	11	5	.....	.....	.....	.....	7	1.73	44.0
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.74	755 5	30.04	763.0	47.2	8.4	84	2	4	.....	2	4	8	3	3	4	.....	.....	9	1.25	31.8
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.88	759 0	29.98	761.5	52.3	11 3	71	.....	.....	.....	.....	.....	1	1	17	10	.....	.....	9	4.14	105.1
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.33	744.9	30.08	764.0	41.7	5.4	83	4	5	3	.....	2	10	2	1	3	.....	.....	8	2.73	69.4
BRAZILIAN.																												
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.85	758.3	30.02	762.5	76.3	24.6	72	2	10	2	.....	.....	8	2	2	4	.....	.....	3	2.21	56.1
BRITISH.																												
Aberdeen	N. 57 10	W. 2 06	11 52 a.m.	89	27	29.74	755 4	29.87	758.7	43.1	6.2	74	.....	2	4	5	13	3	3	.....	.....	10074	16212	6	2.02	51.3
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.86	758.4	44.8	7.1	64	1	.....	5	5	1	4	13	1	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.33	745.0	29.88	758.9	42.1	5.6	96	.....	2	2	5	3	5	10	3	.....	.....	.....	8	2.29	58.2
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.47	748.5	29.89	759.2	44.1	6.7	82	2	3	3	5	1	9	1	6	.....	.....	.....	8	.....	.....
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.99	761.7	29.93	760.2	84 6	29.2	79	.....	1	.....	.....	.....	.....	.....	24	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.75	755.6	29.95	760.7	46.7	8.2	83	.....	1	3	1	4	1	2	.....	18	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	211	64	29.67	753.6	29.88	758.9	50.4	10.2	82	1	2	1	6	4	2	10	4	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.62	701.5	29.87	758.7	79.4	26.3	50	2	6	.....	1	3	2	2	14	.....	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.78	756.4	81.3	27.4	91	10	.....	4	1	10	1	4	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.71*f*	754.6*f*	29.77*f*	756.1*f*	47.9	8.8	81	1	.....	2	11	1	3	9	3	.....	.....	.....	7	2.84	72.1
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.97	761.2	29.99	761.7	60.0	15.6	91	.....	10	4	1	.....	.....	.....	15	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.71	754.6	29.91	759.7	46.4	8.0	84	3	.....	.....	.....	10	1	2	6	8	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.58	751.3	29.89	759.2	49.4	9.7	84	.....	2	5	4	3	3	9	4	.....	.....	.....	8	4.69	119.1
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.86	758.4	29.92	760.0	46.2	7.9	80	2	1	2	6	2	3	8	6	.....	.....	.....	8	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.62	752.3	29.90	759.4	44.5	6.9	84	.....	1	1	10	1	3	.....	14	1	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.38 p.m.	70	21	.....	.....	.....	.....	65.3	18.5	71	.....	14	1	8	1	4	2	.....	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.00	762.0	30.00	762.0	*b* 74.9	*b* 23.8	77	1	9	2	1	.....	4	.....	13	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.66	753.4	29.91	759.7	45.0	7.2	86	1	3	2	4	3	1	5	11	.....	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.78	756.4	29.87	758.7	49.4	9.7	88	.....	3	1	6	1	1	7	8	3	.....	.....	8	.....	.....
Sandwick Manse	N. 59 05	W. 3 20	11.47 a.m.	94	29	29.73*f*	755 1*f*	29.87*f*	758.7*f*	*d* 42.9	*d* 6.1	*d* 89	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6*d*	.....	.....
Seaward Cemet'y	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.96	761.0	30.02	762 5	59.3	15.2	71	2	.....	1	8	2	2	3	10	4	.....	.....	9	3.82	97.0
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.89	759.2	43.5	6.4	80	.....	1	8	2	2	3	10	4	.....	.....	.....	9	.....	.....
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.75	755.6	29.80	756.9	49.9	9.9	83	1	2	3	4	5	6	8	1	.....	.....	.....	8	.....	.....
Sub-series.																												
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.58	751.3	29.95	760 7	64.6	18.1	71	.....	10	5	5	2	5	3	.....	.....	4873	7696	7	4.11	104.4
CANADIAN.																												
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.88	759.0	29.92	760.0	29.5	— 1.4	.....	.....	2	5	6	1	2	3	.....	11	.....	.....	6	2.50	63.5
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.83	757.7	29.87	758.7	37.9	3.3	83	8	2	9	.....	1	3	4	2	1	5278	8494	7	3.99	101.3
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.84	757.9	29.90	759.4	28.1	— 2.2	90	5	1	8	5	2	1	.....	8	.....	3793	6104	5	3.87	98.3
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.69	754.1	29.90	759.5	31.8	— 0.1	93	3	9	6	2	1	.....	3	5	1	.....	.....	9	3.32	84.3
Dalhousie *b*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.89	759.2	29.95	760.7	29.9	— 1.2	.....	*d*	1	15	.....	.....	1	5	.....	4	.....	.....	6	5.80	147.3
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.89	759.2	29.93	760.2	27.5	— 2.5	85	1	4	2	6	4	1	1	10	1	12128	18518	7	3.02	76.7
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.18	741.2	30.07	763.8	23.2	— 4.9	80	7	3	.....	1	7	6	3	1	2	7782	12524	9	0.84	21.3
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.74	755.4	29.93	760.2	28.5	— 1.9	84	3	5	6	4	.....	.....	3	7	2	5472	8806	6	4.18	106.2
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.80	758.4	29.91	759.7	38.9	3.8	79	3	2	8	3	2	2	3	0	1	10484	16882	5	3.68	93.5
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.85	732.8	29.92	760.0	34.7	1.5	98	2	2	4	4	3	2	1	1	11	3633	5847	9	4.37	111.0
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.78	756.4	29.91	759.7	37.8	3.2	85	9	1	13	1	1	1	2	2	.....	.....	.....	5	5.42	137.7
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.55	750.8	29.97	761.2	37.7	3.2	86	5	1	5	10	6	2	.....	1	.....	.....	.....	8	1.93	49.0
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.58	751 3	29.92	760.0	35.5	1.9	88	2	2	7	3	2	.....	2	10	2	5421	8724	5	3.32	84.3
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.80*c*	756.9	29.84*c*	757.9*c*	*c* 39.8	*c* 4.3	*c* 83	*b4*	3	2	8	4	2	.....	5	.....	.....	.....	8*b*	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.03	737 3	29.95	760.7	36.1	2.3	90	3	1	5	.....	1	.....	1	1	18	2413	3883	9	3.46	87.9
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.49	698.2	29.83	757.7	32.5	0.3	75	.....	.....	1	2	9	2	.....	1	15	.....	.....	4	0.02	0.5
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.08	713.2	30.03	762.7	20.7	— 6.3	96	2	2	3	.....	2	7	9	2	3	4654	7490	6	0.23	5.8
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.73	755.1	29.94	760.5	30.8	— 0.7	86	11	.....	0	4	1	2	3	2	1	.....	.....	7	3.67	93.2
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.65	753.1	29.93	760.2	30.5	— 0.8	95	2	4	4	3	.....	1	8	8	.....	4589	7385	7	3.63	92.2
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.19	741.4	29.91	759.7	33.5	0.8	88	5	3	1	.....	7	4	4	0	.....	7245	11659	8	5.29	134.4
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	34.2	1.2	89	3	4	.....	6	.....	2	1	3	11	.....	.....	8	2.62	66.5
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.26	743.2	30.01	762.2	26.1	— 3.3	89	8	4	3	2	.....	.....	.....	1	12	3002	4831	8	1.54	39.1
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.23	742.4	29.94	760.5	37.3	2.9	99	1	2	4	4	2	1	1	2	13	3770	6067	9	2.06	52.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.27	743.4	29.94	760.5	36.4	2.4	87	4	4	13	2	.....	1	3	2	1	.....	.....	8	3.07	78.0
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.61	701.3	29.98	761.5	24.7	— 4.1	87	1	3	.....	2	8	8	.....	.....	.....	.....	.....	6	0.59	15.0
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.56	750.8	29.94	760.5	28.9	— 1.7	87	4	.....	9	2	.....	2	3	10	.....	.....	.....	7	2.38	60.5
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.45	748.0	29.93	760.2	30.0	— 1.1	86	3	3	4	.....	2	2	8	2	8	.....	.....	7	2.31	58.7
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.84	757 9	29.89	759.2	34.8	1.6	94	5	5	5	1	.....	1	3	9	1	.....	.....	4	4.71	119.6
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.81	757.2	29.94	760.5	33.7	0.9	84	5	3	4	5	.....	.....	2	10	1	.....	.....	6	6.01	152.6
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.81	757.2	37.9	3.3	.....	4	8	3	1	1	8	1	4	.....	.....	.....	.....	10.36	263.
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.17	740.9	29.91	759.7	36.3	2.4	90	3	3	4	5	5	1	2	5	2	7694	12382	10	4.02	102.1
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.63	727.2	29.97	761.2	34.1	1.2	90	.....	5	2	6	6	4	2	2	1	4030	6486	9	3.66	93.0
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.80	756.9	29.86	758.4	37.7	3.2	85	4	4	2	9	1	3	.....	2	5	7643	12300	8	5.99	152.1
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.54	750.3	29.94	760.5	36.5	2.5	85	7	3	7	6	1	1	4	1	.....	6527	10594	7	2.10	53.3
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.87	733.3	29.97	761.2	35.4	1.9	87	3	3	6	7	5	1	2	.....	3	.....	.....	9	2.74	69.6
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.85	758.2	29.95	760.7	40.2	4.6	93	4	5	6	1	3	1	4	6	.....	.....	.....	5	3.32	84.3
Sub-series.																												
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.64	752.8	29.83	757.7	36.3	2.4	89	4	4	6	2	3	3	.....	8	.....	.....	.....	6	5.33	135.4
CAPE COLONY																												
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.02	762.5	30.02	762.5	67.9	19.9	91	.....	.....	.....	7	8	.....	2	10	3	.....	.....	4	1.16	29.5
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.95	760.7	.....	.....	71.8	22.1	52	.....	4	3	.....	.....	10	.....	.....	13	.....	.....	6	1.85	47.0
Springbok *a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	26 81	681.0	.....	.....	77.0	25.0	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.42	10.7
CHINESE.																												
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	30.06	763.5	30.12	765.0	67.6	19.8	59	7	1	2	.....	1	2	10	6	1	.....	.....	3	0.74	18.8
Sub-series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.29	769 4	30.27	768.9	46.4	8.0	80	3	2	7	3	2	4	4	5	.....	.....	.....	3	0.73	18.6
DANISH.																												
Copenhagen	N. 55 41	E. 12 36	0.59 p.m.	43	13	29.95	760.8	30.03	762.8	39.4	4.1	85	3	2	3	6	5	.....	8	3	.....	.....	.....	8	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.95	760.7	30.00	762.0	39.4	4.1	87	1	2	4	4	5	8	4	1	1	.....	.....	6	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.64	752 9	29.70	754.4	24.3	— 4.3	.....	2	2	.....	.....	.....	.....	3	.....	3	20	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.52	749.8	29.61	752 2	32.9	0.5	86	.....	2	.....	.....	3	1	7	5	11	1	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1885.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.												
						Actual.		Reduced.					Directions.								Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
DANISH—Con.	° ′	° ′																							
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.63	752.6	29.69	754 2	41.9	5.5	81	3	.....	5	5	7	4	1	2	3	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.85	758.3	29.98	761 5	39.4	4.1	84	2	1	5	1	3	6	7	2	3	.....	.....	6	.....	.....
FRENCH.																									
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.34	745.2	30.00	761.9	52.5	11.4	85	.....	6	4	.....	4	11	1	.....	4	.....	.....	7	1.15	29.1
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.38	746.3	29.95	760.6	46.8	8.2	86	3	1	.....	2	9	1	1	13	.....	.....	.....	.....	1.84	46.8
Arras	N 50 18	E. 2 46	0.11 p m	223	68	29.72	754.9	29.97	761.3	44.8	7.1	82	1	3	.....	5	1	2	11	4	3	.....	.....	7	2.90	73.6
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.87	758.6	29.95	760.6	55.4	13.0	69.	19	1	.....	.....	1	2	4	3	.....	.....	.....	.....	5.06	128.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.39	746 5	29.96	761.0	47.3	8.5	80	.....	1	1	4	3	13	1	7	...	.....	.....	8	2.22	56.4
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	246	75	29.61	752.1	29.92	759.9	46.4	8.0	80	23	.....	2	3	1	.....	.....	1	.....	.....	.....	.....	2.09	53.1
Besançon	N. 47 13	E. 6 02	0.24 p.m.	846	258	29.01	736.9	29.92	759.9	48.9	9.4	76	7	.....	.....	.....	9	.....	13	1	.....	.....	.....	.....	3.20	81.2
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.67	753.5	29.93	760.2	53.2	11.8	77	1	8	.....	7	1	9	4	.....	.....	.....	.....	6	3.02	76.7
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.39	746.5	29.95	760.8	49.1	9.5	88	6	3	4	2	1	1	7	6	.....	.....	.....	6	1.04	26.5
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.67	753.5	29.92	759.9	52.0	11.1	84	3	2	1	8	1	4	2	7	2	.....	.....	7	3.52	89.5
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.81	757.2	29.90	759.4	47.8	8.8	91	.....	6	1	14	3	2	.....	4	.....	.....	.....	.....	2.15	54.7
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.60	751.8	29.97	761.1	45.7	7.6	83	1	1	3	3	11	5	3	2	1	.....	.....	6	1.82	46.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.47	748.6	30.00	761 9	44.8	7.1	79	.....	1	.....	9	12	4	.....	4	.....	.....	.....	8	3.70	94.1
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.58	725.8	29.94	760.4	49.8	9.9	72	7	3	2	5	7	3	.....	3	.....	.....	.....	8	2.01	51.1
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.11	739.4	29.98	761.5	47.1	8.4	80	.....	.....	1	8	8	1	1	7	4	.....	.....	.....	2.82	71.7
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.10	739.0	29.99	761.7	43.3	6.3	88	.....	2	7	4	1	6	9	1	.....	.....	.....	5	3.42	87.0
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.40	696.0	29.95	760.6	49.1	9.5	67	1	.....	.....	2	2	.....	.....	1	3	21	.....	.....	3.58	90.8
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.79	731.2	29.91	759.8	54.5	12.5	71	3	.....	.....	.....	3	10	5	9	.....	.....	.....	6	4.63	117.5
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.27	743 4	30.05	763.2	47.5	8.6	79	2	2	4	1	3	3	9	3	3	.....	.....	6	4.08	103.7
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.33	719.5	29.91	759.8	47.3	8.5	82	3	2	3	6	5	1	1	6	3	.....	.....	.....	2.64	67.1
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.58	751.3	29.87	758.6	50.9	10.5	80	1	2	1	3	6	8	5	4	.....	.....	.....	7	2.21	56.1
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.36	745.7	29.92	759.9	56.3	13.5	68	1	1	5	3	7	4	3	2	5	.....	.....	8	2.50	63.6
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.81	757.1	29.91	759.7	51.1	10.6	89	3	2	4	3	3	1	5	8	1	.....	.....	8	4.76	120.9
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.91	734 2	29.98	761.4	47.7	8.7	75	4	6	1	2	5	3	8	1	.....	.....	.....	8	2.16	54.8
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.61	752.1	29.94	760.4	48.0	8.9	86	3	1	.....	7	4	3	4	8	.....	.....	.....	8	2.59	65.8
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.64	752.9	29.91	759.6	57.7	14.3	66	.....	10	8	1	1	2	7	1	.....	.....	.....	.....	3.29	83.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.76	628.9	29.60	751.9	42.8	6.0	60	3	2	7	14	1	3	.....	.....	.....	.....	.....	5	3.10	78.7
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.84	757.9	29.92	759.9	56.3	13.5	75	8	5	8	2	.....	3	1	3	.....	.....	.....	.....	8.01	203.4
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.73	602.8	.....	.....	.....	.....	.....	2	7	.....	2	3	13	1	2	.....	.....	.....	2	7.14	181.4
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.17	740.8	29.98	761.5	43.5	6.4	83	3	3	6	8	.....	1	2	4	3	.....	.....	.....	1.98	50.2
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.78	756.4	29.94	760.5	50.9	10.5	81	.....	3	1	3	5	3	7	8	.....	.....	.....	8	4.48	113.8
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.85	758.1	29.89	759.2	59.9	15.5	79	5	.....	7	...	1	1	.....	.....	16	.....	.....	.....	3.49	88.6
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.83	757.6	29.94	760.4	58.1	14.5	63	.....	11	2	2	3	7	1	3	1	.....	.....	6	2.76	70.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.09	535.7	.....	.....	28.6	— 1.9	.....	.....	8	6	4	3	.....	1	3	5	.....	.....	.....	8.62	219.0
Privas. [mit.]	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.88	733.6	29.97	761.1	50.0	10.0	78	9	.....	1	.....	16	1	1	2	.....	.....	.....	.....	6.14	156.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.00	635.1	.....	.....	35.2	1.8	94	2	2	4	8	2	7	4	1	.....	.....	.....	8	6.64	168.7
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.90	759.4	29.93	760.2	52.9	11.6	80	3	4	6	4	4	2	.....	7	.....	.....	.....	8	4.09	104.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.65	753.2	29.94	760.4	50.0	10.0	82	1	3	3	2	1	7	9	4	.....	.....	.....	6	2.13	54.0
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.77	705.3	29.96	760.9	48.0	8.9	71	6	9	.....	.....	.....	15	.....	.....	.....	.....	.....	.....	2.52	64.1
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.87	758.8	29.93	760.3	47.3	8.5	81	2	2	2	5	4	5	1	9	.....	.....	.....	7	2.45	62.2
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.77	756.2	29.95	760.7	46.9	8.3	77	7	2	.....	5	4	5	4	3	.....	.....	.....	.....	1.69	43.0
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.2)	743 2	29.98	761.5	53.6	12.0	80	.....	10	1	1	2	14	1	1	.....	.....	.....	8	1.51	38.3
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.75	755.6	29.93	760.2	50.5	10.3	82	4	2	.....	3	4	1	3	13	.....	.....	.....	.....	1.73	43.9
Sub-Series.																									
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.80	757.0	29.95	760.8	54.5	12.5	73	2	.....	8	3	3	4	5	5	.....	.....	.....	6	4.26	108.1
GERMAN.																									
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.53	724.6	30.03	762.7	41.5	5.3	76	1	1	1	8	.....	3	6	6	4	.....	.....	6	1.64	41.7
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.15	740.5	29.95	760.8	41.9	5.5	69	4	.....	3	5	4	3	7	.....	4	.....	.....	6	2.24	56.9
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.89	759.3	30.05	763.5	38.3	3.5	78	1	2	4	4	3	6	7	3	.....	.....	.....	8	1.39	35.2
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.53	750.0	30.08	764.0	40.3	4.6	81	1	3	4	2	5	7	7	.....	1	.....	.....	7	1.24	31.6
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.54	750.2	30.01	762.3	43.9	6.6	78	.....	1	.....	12	2	2	1	12	.....	.....	.....	8	2.42	61.5
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.27	743.4	30.00	761.9	40.3	4.6	80	9	.....	1	1	13	2	2	2	.....	.....	.....	6	2.34	59.3
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.61	752.1	30 05	763.3	42.6	5.9	76	2	.....	1	9	1	2	9	5	1	.....	.....	7	2.54	64.4
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.56	725.4	30.02	762.4	43.0	6.1	82	1	1	3	8	3	1	1	12	.....	.....	.....	9	2.20	56.0
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.93	760 2	30.04	763.0	37.6	3.1	88	2	2	2	7	1	2	11	3	.....	.....	.....	7	1.60	40.7
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.98	761.5	30.02	762.4	39.4	4.1	80	1	.....	4	6	5	4	6	4	.....	.....	.....	7	1.09	27.6
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.60	751.7	30.05	763.2	39.7	4.3	85	1	4	1	6	5	2	3	8	.....	.....	.....	7	1.52	38.6
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.82	757 4	30.03	762.8	39.0	3.9	85	3	5	3	1	4	4	6	4	.....	.....	.....	7	1.35	34.2
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.01	762.2	30.09	764.3	37.4	3.0	84	.....	7	7	3	4	4	3	2	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.13	714.6	30.01	762.2	40.8	4.9	82	1	4	2	2	1	1	6	3	10	.....	.....	8	2.18	55.5
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.03	762.8	30.09	764.3	37.6	3.1	83	.....	2	7	4	7	6	2	2	.....	.....	.....	7	1.09	27.6
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.46	748.2	30.00	761.9	42.8	6.0	83	6	2	2	5	2	.....	2	3	8	.....	.....	8	1.24	31.6
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.08	738.6	30.00	762.1	44.4	6.9	77	1	3	1	8	.....	7	2	6	2	.....	.....	7	0.70	17.8
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.00	762 0	30.04	763.1	39.0	3.9	84	2	1	1	4	4	9	5	4	.....	.....	.....	7	0.93	23.6
GREEK.																									
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.63	752.7	30.00	762.0	63.3	17.4	74	8	.....	1	2	9	5	.....	5	.....	.....	.....	6	10.01	254.3
INDIAN.																									
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.93	760.2	29.93	760.2	83.3	28.5	56	.....	.....	13	16	.....	.....	1	.....	.....	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.49	749.1	29.91	759.6	88.1	31.2	21	7	6	4	3	1	1	4	3	.....	.....	.....	0	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.89	759 2	29.87	758.7	83.1	28.4	63	6	20	3	.....	.....	.....	.....	1	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.08	713.2	29.86	758.3	81.4	27.4	35	4	2	.....	4	.....	.....	1	19	.....	.....	.....	3	2.04	51.8
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.38	695.4	29.83	757.8	76.9	24.9	47	3	.....	2	1	1	1	6	14	.....	.....	.....	4	2.34	59.4
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.27	743.5	29.96	761.0	72.2	22.3	45	.....	2	1	.....	.....	.....	.....	1	26	.....	.....	0	0	0
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.07	738.5	29.95	760.7	72.0	22.2	51	.....	.....	1	.....	.....	.....	.....	.....	29	.....	.....	0	0	0
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.43	747.5	29.95	760.8	78.7	25.9	35	.....	7	20	1	.....	.....	.....	1	1	.....	.....	0	0	0
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.91	734.4	29.90	759.4	79.5	26.4	42	.....	.....	.....	.....	1	1	4	3	20	.....	.....	3	0.53	13.5
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.62	726.9	29.93	760 2	77.9	25.5	35	9	4	1	.....	.....	2	.....	4	10	.....	.....	1	1.45	36.8
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.62	752 4	29.90	761.0	71.0	21.7	54	5	5	3	.....	.....	2	1	6	8	.....	.....	0	0	0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.67	753.6	29.94	760.5	70.3	21.3	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.80	756.8	29.94	760.4	74.3	23.5	53	3	7	6	.....	1	.....	3	1	9	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.96	710.2	29.95	760.8	68.7	20.4	47	14	11	.....	.....	1	2	.....	1	1	.....	.....	2	0	0
Cuttack *b*	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.88	759 0	29.91	759.6	78 9	26.1	61	4	3	2	.....	.....	.....	.....	10	9	.....	.....	3	1.08	27.4
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.95	760.8	29.92	759.9	73.2	22.9	75	14	0	1	.....	.....	1	1	4	3	.....	.....	3	0.06	1.5
Dhubri	N. 26 07	E 89 50	5.59 p.m	115	35	29.80	758.4	29.93	760.3	73.5	23.1	73	.....	.....	.....	.....	.....	1	1	1	28	.....	.....	1	0	0
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.87	758.7	29.91	759 6	74.9	23.8	79	3	10	6	1	.....	1	.....	3	6	.....	.....	4	5.08	129.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.66	753.3	29.96	760.8	69.5	20.8	86	.....	.....	.....	.....	1	.....	1	3	25	.....	.....	3	0.64	16.2
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.55	725.2	29.95	760 6	80 5	26.9	32	5	14	2	1	.....	.....	2	4	2	.....	.....	0	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.40	721.3	.....	.....	80.6	27.0	44	1	10	1	1	1	1	2	13	.....	.....	.....	3	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	475	84	29.64	752.9	29.85	758.2	82.0	27.8	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	4.81	122.2
ITALIAN.																									
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.52	749 7	29.93	760.3	52.0	11.1	70	....	3	3	8	.....	1	1	.....	14	.....	.....	7	4.61	117.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.48	748.8	30.01	762.2	49.3	9.6	78	3	2	5	5	.....	5	10	.....	.....	.....	.....	8	5.73	145.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.86	758.5	29.97	761.3	51.1	10.6	75	3	12	3	.....	.....	2	.....	4	6	.....	.....	7	4.73	120.2
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.08	738.0	30.00	762.0	48.7	9.3	83	3	1	7	5	.....	2	3	9	.....	.....	.....	7	5.28	134.0
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.74	755.3	29.93	760.3	54.1	12.3	67	16	7	4	1	.....	.....	.....	.....	2	.....	.....	8	5.96	151.3
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.92	759 9	29.97	761.1	53.2	11.8	81	.....	1	2	3	.....	4	4	16	.....	.....	.....	9	8.39	213.0
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.67	753.7	29.93	760 2	55.9	13.3	72	3	11	2	1	5	2	2	4	.....	.....	.....	8	3.47	88.1
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.84	758.0	29.93	760.2	57.6	14.2	73	.....	9	5	.....	5	2	3	2	4	.....	.....	8	5.10	129.5
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.72	754.8	29.89	759.3	60.6	15.9	68	9	6	4	.....	2	4	.....	.....	5	.....	.....	7	5.55	141.0
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.05	737.9	29.95	760.6	57.6	14.2	68	1	.....	4	8	2	3	7	5	.....	.....	.....	8	6.58	167.2
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.67	753.5	29.91	759.8	65.8	18.8	66	1	7	3	1	.....	5	6	5	2	.....	.....	6	4.62	117.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																									
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.90	759.5	29.95	760.6	64.0	17.8	69	2	5	5	6	3	2	5	2	.....	.....	.....	8	5.39	136.8
Sub-Series.																											
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	22.05	560.1	.....	.....	28.0	— 2.2	85	1	.....	6	7	3	1	4	8	.....	.....	.....	6	2.74	69.6
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.07	560.6	.....	.....	28.4	— 2.0	84	2	1	4	9	1	1	8	4	.....	.....	.....	7	9.50	241.2
JAPANESE.																											
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.97	761.2	29.99	761.7	43.8	6.6	84	5	6	3	1	1	3	4	.....	7	.....	.....	8	8.31	211.0
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.95	760.6	29.97	761.2	41.2	5.1	85	1	2	4	6	7	4	2	1	3	5730	9219	7	7.71	195.9
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.95	760.8	29.95	760.7	41.5	5.3	80	7	4	8	1	.....	1	7	2	....	9438	15188	7	5.01	127.1
Hamamtsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.95	760.8	30.02	762.5	50.6	10.3	82	5	3	15	.....	.....	.....	5	2	.....	.....	.....	3	7.40	187.8
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.12	765.0	30.10	764.5	48.6	9.2	83	18	1	5	2	.....	.....	1	3	.....	4120	6630	5	3.26	82.8
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.98	761.4	30.06	763.5	47.9	8.8	86	1	1	4	3	2	8	9	.....	2	5199	8366	8	18.99	482.4
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.18	766.5	30.16	766.1	51.2	10.7	84	11	9	1	.....	.....	.....	3	3	3	3368	5421	5	5.19	131.8
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.93	760.1	30.07	763.8	47.2	8.4	87	7	10	3	2	1	.....	2	2	3	2133	3915	5	3.61	91.6
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.10	764.6	30.09	764.3	51.7	11.0	79	3	15	6	.....	1	.....	2	2	1	5112	8229	4	5.64	143.4
Misaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.14	765.6	30.14	765.5	51.2	10.7	84	4	.....	18	1	1	1	4	.....	1	6497	10456	4	5.47	138.9
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.88	758 9	29.98	761.5	43.4	6.3	82	1	.....	8	18	.....	1	.....	2	.....	2436	3920	5	10.57	268.4
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.98	761.4	30.15	765.8	51.0	10.6	79	9	7	4	2	1	1	1	1	4	3517	5660	5	4.38	111.2
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.88	759.1	29.93	760.2	40.6	4.8	84	4	4	4	5	5	2	3	1	2	6497	10455	4	6.13	155.6
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.99	761.8	30.01	762.2	49.2	9.5	80	2	4	6	2	3	9	.....	.....	4	7247	11662	7	11.00	280.7
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.98	761.6	29.99	761.7	51.6	10.9	82	1	1	2	5	.....	.....	12	7	2	4499	7240	5	6.88	174.8
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.05	763 4	30.07	763.8	50.5	10.3	82	4	6	4	1	2	1	4	7	1	7166	11533	4	3.43	87.1
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.10	764.4	30.09	764 3	50.4	10.2	79	4	.....	15	1	2	.....	3	2	3	5002	8050	8	7.84	199.1
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.01	762.2	30.12	765.0	52.8	11.5	70	1	3	10	2	.....	3	1	1	9	.....	.....	6	3.26	82.9
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.88	759.0	29.95	760.7	37.8	3.2	81	.....	3	7	3	6	4	1	1	5	5318	8559	9	3.67	93.3
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.96	760 9	30.01	762.2	49.1	9.5	82	13	1	3	1	6	1	5	.....	.....	5242	8436	5	4.58	116.1
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.04	763.1	30.07	763.8	52.9	11.6	76	5	6	4	.....	1	.....	4	2	8	3413	5492	6	3.60	91.5
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.86	758.4	29.99	761 7	77.0	25.0	64	2	.....	.....	1	1	3	12	11	.....	.....	.....	6	1.59	40.4
MEXICAN.																											
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.73	602.6	29.91	759.9	52.3	11 3	71	.....	8	2	.....	.....	.....	3	17	.....	.....	.....	5	0.18	4.7
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.37	619.0	30.15	765.8	50.4	10.2	79	5	16	3	2	.....	1	.....	3	.....	.....	.....	7	0.13	3.3
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.71	754.5	29.97	761.1	74.3	23.5	78	.....	2	.....	.....	.....	4	7	17	.....	.....	.....	4	0	0
Mexico *a*	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.11	587.0	30.21	767.2	48.7	9.3	78	.....	3	1	.....	.....	.....	.....	.....	25	.....	.....	5	1.05	26.9
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.42	594.8	30.13	765.3	56.5	13.6	52	3	4	.....	2	2	2	.....	.....	17	.....	.....	4	0.47	11.9
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.85	758.3	29.87	758.8	43.3	6.3	.....	3	.....	.....	2	8	1	9	7	.....	.....	.....	.....	1.50	38.1
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.91	759.8	29.99	761.7	38.8	3.8	.....	2	.....	2	7	1	9	8	.....	1	.....	.....	.....	1.90	48.3
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.93	760.3	29.95	760.8	41.2	5.1	.....	1	.....	1	5	4	2	14	3	.....	.....	.....	.....	2.07	52.5
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.94	760.4	29.96	760 9	41.5	5.3	.....	1	.....	.....	.....	8	1	.....	4	10	6	.....	.....	.....	.....	.....
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.91	759.7	29.98	761.4	42.1	5.6	.....	1	.....	1	1	9	2	12	4	.....	.....	.....	4	2.07	52.5
Sub-Series.																											
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.79	756.7	79.2	26.2	84	4	.....	1	2	6	1	2	.....	14	.....	.....	8	3.86	98.1
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.82	757.3	29.92	759.9	39.6	4.2	76	1	5	1	2	7	9	1	1	3	.....	.....	6	10.57	268.5
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.70	754.4	29.79	756.7	39.7	4.3	74	4	2	1	1	6	3	4	5	1	4	.....	8	6.78	172.3
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.79	756.7	29.97	761.2	33.4	0.8	81	.....	3	3	8	3	1	2	2	8	.....	.....	7	0.96	24.4
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.65	753.2	29.74	755.3	28.0	— 2.2	.....	3	1	2	4	4	3	4	3	6	.....	.....	8	1.72	43.7
PORTUGUESE.																											
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	29.95	760.7	30.00	762.0	66.9	19.4	68	.....	.....	4	12	2	1	6	1	4	.....	.....	7	6.63	168.3
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.66	753.3	29.98	761.4	56.8	13.8	80	6	2	3	6	3	2	2	4	2	.....	.....	7	5.80	147.3
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	29.94	760.5	29.93	761.8	66 2	19.0	70	7	2	5	6	5	.....	1	3	1	.....	.....	5	4.80	121.8
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.97	761.1	29.94	760.4	81.0	27.2	61	26	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	6	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.07	712.9	29.81	757.2	82.0	27.8	64	.....	2	.....	.....	.....	.....	.....	.....	28	.....	.....	7	.....	.....
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.16	639.0	29.91	759 7	42.8	6.0	76	.....	.....	9	1	3	3	8	3	3	.....	.....	6	32.82	833.6
ROUMANIAN.																											
Bucharest	N. 44 25	E. 27 06	1.53 p.m.	366	112	29.80	757.1	30.21	767.4	46.4	8.0	75	.....	.....	2	5	3	1	6	13	.....	.....	.....	8	0.63	16.1
RUSSIAN.																											
Akmollinski *a*	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	29.00	736.5	30.17	766.3	19.4	— 7.0	73	.....	.....	4	14	3	3	2	2	1	.....	.....	7	0.16	4.2
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.79	756.6	29.86	758.4	12.4	—10.9	85	3	.....	2	7	3	4	5	4	2	.....	.....	8	1.62	41.2
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.25	768.4	30.17	766 3	36.3	2.4	69	3	5	9	1	2	6	4	.....	.....	.....	.....	6	0.20	5.0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.21	767.3	30.15	765.8	51.8	11.0	78	11	1	.....	6	5	.....	.....	1	6	.....	.....	7	1.33	33.7
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.77	756.1	30.33	770.4	17.8	— 7.9	77	1	3	.....	15	.....	2	.....	3	6	.....	.....	6	0.66	16.9
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.70	754.5	29.99	761.7	31.6	— 0.2	89	2	3	8	10	2	4	1	.....	.....	.....	.....	9	1.11	28.2
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.92	731.6	29.98	761.5	16.2	— 8.8	80	2	3	7	6	3	2	2	5	.....	.....	.....	9	1.11	28.2
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.73	755.1	30.21	767.3	36.3	2.4	74	5	7	3	3	2	3	1	3	3	.....	.....	8	1.18?	30.1?
Kasalinsk *a*	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.94	760.5	30.12	765.0	35.8	2.1	72	1	4	5	5	2	4	4	3	1	.....	.....	6	0.96	24.3
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.70	754 3	30.01	762.2	19.8	— 6.8	86	4	5	5	8	5	1	.....	2	.....	.....	.....	8	0.56	14.2
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.73	755.2	29.83	757.7	19.0	— 7.2	87	1	3	10	3	3	2	1	3	4	.....	.....	8	1.18	30.0
Kertch *a*	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.11	764.8	30.13	765.3	44.4	0.9	81	5	2	1	1	.....	3	5	4	.....	.....	.....	8	0.92	23.5
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.51	749.5	30.16	766.1	34.7	1.5	83	3	5	6	4	3	3	1	3	2	.....	.....	7	0.82	20.8
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.50	749.4	30.06	763 5	25.2	— 3.8	88	5	5	6	7	2	1	.....	1	3	.....	.....	9	1.58	46.0
Lgov	N. 51 41	E 35 17	2.21 p.m.	535?	163?	29.56	750.7	30.19	766.8	29.8	— 1.2	79	2	5	6	7	3	1	1	5	.....	.....	.....	9	0.94	24.0
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.98	761.6	30.04	763.0	37.6	3.1	79	.....	4	9	5	2	4	4	1	.....	.....	.....	8	1.62	41.1
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	30.02	762 6	30.24	768.1	36.3	2.4	69	4	9	7	2	2	1	2	3	.....	.....	.....	8	0.65	16.4
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.50	749.4	30.05	763.3	23.5	— 4.7	80	5	5	1	6	5	2	.....	1	5	.....	.....	8	0.75	19.1
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	30.12	765.1	30.19	766.8	39.9	4.4	76	2	1	.....	1	6	3	1	7	9	.....	.....	6	0.55	14.0
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	59	18	29.78	756.3	29.88	758.9	11.1	—11.6	77	.....	.....	12	.....	.....	.....	1	1	16	.....	.....	4	0	0
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.53	750.1	30.06	763.5	15.6	— 9.1	79	9	3	1	7	3	3	1	3	.....	.....	.....	7	0.65	16.6
Perm	N. 58 01	E. 56 16	3.45 p.m.	344	105?	29.50	749.3	29.94	760.5	10.2	— 8.8	80	.....	2	5	8	2	3	1	0	3	.....	.....	9	1.32	33.5
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.88	758.9	30.23	767.8	45.3	7.4	58	2	3	3	3	1	9	4	5	.....	.....	.....	6	0.51	13.0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.64	752 8	29.89	759.2	22.8	— 5.1	82	1	7	9	7	2	1	1	.....	2	.....	.....	8	1.98	50.3
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.60	751.9	30.14	765.5	33.1	0.6	84	2	6	4	3	5	2	4	1	3	.....	.....	8	0.87	22.0
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.08	763.9	30.10	764.5	57.4	14.1	71	.....	5	2	2	.....	.....	15	.....	6	.....	.....	6	5.27	133.9
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.89	759.1	29.95	760.7	28.0	— 2.2	87	1	6	7	4	7	5	.....	.....	.....	.....	.....	8	1.21	30.7
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.69	703.3	30.19	766.8	49.1	9.5	75	.....	.....	1	.....	.....	4	.....	.....	25	.....	.....	5	2.12	53.9
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.91	759 7	30.12	765.0	50.2	10.1	64	9	3	2	4	2	1	.....	9	.....	.....	.....	7	2.60	66.0
Starol Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.51	749.5	30.12	765 0	29.8	— 1.2	81	3	5	6	3	4	4	1	4	.....	.....	.....	7	1.37	34.9
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.53	724 6	30.22	767.6	48.7	9.3	68	3	6	2	.....	1	.....	.....	4	14	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.73	729.8	30.16	766.1	52.0	11.1	61	9	7	.....	.....	.....	8	2	1	3	.....	.....	6	2.61	66.3
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.98	761.4	30.33	770.4	8.4	—13.1	80	1	2	.....	3	4	1	6	.....	13	.....	.....	6	1.08	27.4
Sub-Series.																											
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.39	746.5	30.01	762.2	22.8	— 5.1	78	3	7	6	5	4	2	..	2	1	.....	.....	8	0.78	19.8
SPANISH.																											
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.79	756.7	29.95	760.7	58.5	14.7	72	4	1	3	4	9	1	4	4	.....	.....	.....	5	1.77	45.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.88	759.0	29.94	760.5	59.4	15.2	73	.....	6	4	.....	1	6	4	2	.....	8	1614	2598	7	3.80	96.6
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.02	686.2	30.01	762.2	48.6	9.2	79	2	4	1	10	6	2	2	3	.....	6094	9807	7	2.15	54.7
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.75	704.9	30 00	762.1	53.8	12.1	68	3	.....	3	4	2	2	2	4	10	6538	10520	6	4.16	105.6
Santingo	N. 42 53	W. 8 28	11.20 a.m.	863	263	28.98	736.2	29.92	759 9	55.4	13.0	84	6	.....	.....	6	3	6	.....	2	7	5576	8973	9	7.18	182.5
Sub-Series.																											
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.97	761.2	29.99	761.7	69.2	20.7	84	5	2	.....	2	3	8	9	1	.....	.....	.....	5	1.92	48.9
Manilla	N. 14 35	E.120 57	8.04 p.m.	52	16	29.93	760.3	29.92	760.0	78.9	26.1	81	2	.....	1	1	.....	6	9	11	.....	4268	7905	3	2.26	57.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.94	760.5	30.02	762.5	62.9	17.2	70	5	1	10	1	3	1	5	1	3	.....	.....	6	5.04	128.0
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.91	759.7	29.94	760.5	79.3	26.3	83	.....	.....	.....	.....	1	6	8	4	4	7	.....	.....	4	5.91	150.1

RESULT OF SIMULTANEOUS OBSERVATIONS FOR NOVEMBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity.	WIND. Directions. N	NW	W	SW	S	SE	E	NE	C	WIND. Total Movement. Miles	Kil.	Average Cloudiness.	TOTAL PRECIPITATION. Inch.	Mill.
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.													0-10		
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.74	755.4	29.83	757 7	20.5	— 6.4	93	5	3	3	2	3	3	.....	4	7	.....	.....	8	2.57	65.3
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.77	756.1	29.87	758.6	26.1	— 3.3	90	7	6	1	3	2	.....	.....	2	9	.....	.....	6	1.39	35.4
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.79	756 6	29.88	759.0	33.4	0.8	78	5	.....	1	2	2	1	1	1	17	.....	.....	4	1.22	31.0
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.72	754.9	29.93	760 3	34.7	1.5	83	2	2	9	7	3	1	.....	...	6	.....	.....	7	1.26	32.0
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.89	759 3	29.98	761.6	38.7	3.7	84	.....	2	12	4	2	5	2	3	.....	.....	.....	7	1.00	25.5
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.80	756.9	29.85	758.1	33.8	1.0	87	.....	6	4	14	2	2	2	.....	.....	.....	.....	7	1.12	28.4
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.92	759.9	57.7	14.3	72	10	2	2	5	3	1	.....	7	.....	.....	.....	7	3.30	83.7
Valona	N. 40 27		1.18 p.m.	105	32	.....	.....	30.06	763.5	63.7	17.6	.....	....	4	1	5	3	11	3	3	..	.....	.....	.....	5.51	140.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.98	761.4	72.3	22.4	61	2	.....	13	5	1	.....	1	8	.....	.....	.....	5	3.93	99.9
UNITED STATES.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.84	757.9	29.91	759.7	37.6	3.1	80	8	1	3	6	3	1	3	4	1	8513	13700	5	4.78	121.4
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.82	757 4	29.93	760 2	35.8	2.1	83	6	3	5	6	.....	1	.....	8	1	5666	9118	4	3.43	87.1
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.52	597.4	30.08	764.0	21.1	— 6.1	95	1	12	4	2	1	7	2	1	.....	23100	37175	3	6.67	169.4
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.79	756.7	29.92	760.0	41.2	5.1	76	6	1	11	5	1	1	2	3	.....	9332	15018	5	5.78	146.8
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.91	759.7	29.93	760.2	46.0	7.8	86	6	7	1	8	.....	1	1	6	.....	13344	21475	7	4.79	121.7
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.92	760.0	29.96	761.0	41.9	5.5	78	4	5	8	3	.....	.....	1	8	1	5947	9561	5	5.69	144.5
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.83	757 7	29.94	760 5	38.6	3.7	82	10	.....	8	3	2	.....	1	3	3	6837	11002	6	3.49	88.6
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.88	758 9	29.98	761.5	37.6	3.1	82	4	7	3	5	5	2	2	2	.....	5095	8199	8	3.90	99.1
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.78	756.4	29.95	760.7	41.5	5.3	79	2	12	2	4	1	2	.. .	3	4	7698	12388	5	5.05	128.3
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.85	758.2	29.97	761.2	41.5	5.3	80	2	10	1	4	7	.....	.....	4	2	7828	12598	6	3.35	85.1
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.95	760 7	29.97	761.2	43.7	6.5	82	4	10	4	4	2	.....	.....	6	.....	14290	22997	6	4.83	122.7
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.96	761.0	29.96	761.0	43.6	6.4	86	3	7	11	1	7	.....	1	...	.....	6645	10694	7	6.84	173.7
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	29.93	760 2	29.94	760.5	44.3	6.8	86	9	4	8	6	.....	.....	2	1	.....	11585	18644	7	4.89	124.2
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.95	760.7	29.99	761.7	42.0	5.6	76	3	8	6	3	4	1	.....	4	1	4199	6758	6	4.04	102.6
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.90	759 4	30.00	762.0	41.2	5.1	83	3	11	2	2	5	.....	.....	1	6	4444	7152	6	3.33	84.6
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.99	761.7	29.98	761.5	46.4	8.0	79	10	7	1	8	1	.....	.....	1	2	9302	14970	6	6.96	176.8
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.00	762.0	30.00	762.0	47.9	8.8	78	4	7	2	8	6	1	1	.....	.....	10521	16932	6	4.24	107.7
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.32	744.7	30.02	762.5	39.7	4.3	87	1	5	5	3	4	1	1	4	6	2268	3650	5	2.83	71.9
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.98	761.5	29.99	761.7	47.1	8.4	83	8	6	2	1	8	.....	1	4	.....	5394	8681	5	4.64	117.9
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.02	762 5	30.01	762.2	48.5	9.2	82	4	8	3	5	3	.....	1	3	3	9051	14566	6	4.55	115.6
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.01	762.2	30.00	762.0	52.2	11.2	79	5	11	2	2	2	2	.....	4	2	8153	13121	4	3.65	92.7
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.02	762 5	30.00	762.0	50.9	10.5	89	8	11	1	2	3	1	1	3	.....	8865	14266	4	3.58	90.9
Smithville	N. 33 55	W. 78 07	6.48 a.m.	34	10	30.00	762.0	30.01	762 2	49.3	9.6	84	12	5	1	.....	6	.....	1	5	.....	5560	8948	4	4.33	110.0
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.00	762.0	30.03	762.7	49.6	9.8	81	9	8	2	2	2	3	2	1	1	4082	6569	5	2.67	67.8
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.20	741 7	30.05	763.3	42.6	5.9	86	3	5	2	4	5	2	2	5	2	3131	5039	4	4.10	104.1
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.01	762.2	30.03	762.7	53.4	11.9	83	6	6	3	3	2	3	.....	3	4	3160	5085	4	1.94	49.3
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.90	759.4	30.06	763.5	43.8	6.6	93	1	7	6	1	3	2	.....	1	9	2043	3288	4	1.55	39.4
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.99	761.7	30.05	763.3	51.7	10.9	79	5	9	8	2	3	1	1	1	1	4649	7472	2	0.61	15.5
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.04	763.0	30.05	763.3	53.5	11.9	85	.....	9	4	3	2	1	.1	4	6	3669	5905	4	0.50	12.7
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.04	763 0	30.02	762.5	56.1	13.4	87	6	8	... .	2	1	1	5	5	2	5220	8401	4	1.17	29.7
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.04	763.0	30.01	762.2	69.6	20.9	84	4	5	1	.....	.....	1	4	13	2	7358	11841	6	0.43	10.9
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.05	763.3	30.04	763.0	56.7	13.7	86	8	7	5	.....	1	3	... ..	.....	6	3625	5839	3	0.29	7.4
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.88	733.5	30.07	763.8	45.2	7.3	82	.....	10	6	2	3	5	2	2	.....	7365	11853	5	3.98	101.1
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.06	763.5	30.05	763 3	53.0	11.7	78	9	6	2	2	5	2	1	3	....	5021	8080	6	11.07	281.2
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.06	763.5	30.06	763.5	50.6	10.3	86	5	15	1	.....	6	1	.....	1	1	5602	9015	7	4.83	122.7
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.86	758.4	30.06	763.5	48.1	8.9	87	....	8	2	.....	5	2	2	1	10	3695	5946	5	3.59	91.2
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.88	758 9	30.08	764.0	48.5	9.2	81	6	1	1	2	3	4	4	1	8	3656	5884	4	3.19	81.0
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.04	763 0	30.06	763.5	55.3	12.9	85	10	3	2	2	1	6	2	1	3	5061	8145	4	3.47	88.1
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.84	757.9	30.06	763.5	48.6	9.2	84	5	6	3	4	9	1	.....	2	.....	.....	.....	4	3.93	99.8
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	479	143	29.54	750 3	30.04	763.0	42.4	5.8	82	.....	2	4	1	1	1	12	1	8	3217	5177	4	1.12	28.4
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.73	755 1	30.02	762.5	44.7	7.1	85	4	5	5	6	4	.....	2	1	3	4108	6611	4	2.64	67.1
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.05	763 5	30.06	763 5	62.2	16.8	82	8	.....	3	2	9	1	3	3	1	7363	11489	3	2.32	58.9
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.04	763.0	30.03	762 7	61.5	16.4	84	6	1	.....	2	7	2	5	5	2	9761	15708	4	2.65	67.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.54	750.3	30.08	764.0	51.6	10.9	76	4	4	3	2	10	2	2	3	.....	6923	11141	4	3 48	88.4
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29 25	742.9	30.04	763.0	52.1	11.2	80	11	5	2	.....	2	4	2	4	.....	5204	8377	4	0.70	17.8
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.99	761 7	30.00	762.0	61.3	16.3	92	10	1	1	1	9	1	2	1	4	4975	8006	3	0.20	5.1
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.86	758.4	30.02	762.5	58.6	14.8	80	6	3	.....	.....	1	5	3	1	11	3489	5615	4	0.12	3.0
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.25	742.9	30.07	763.8	42.6	5.9	85	1	11	3	2	4	3	....	5	1	4309	6935	6	6.18	157.0
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.03	737.3	30.07	763.8	40.7	4.8	86	6	5	3	4	.....	3	2	6	1	3548	5710	6	6.15	156.2
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.68	753.9	30.01	762.2	45.8	7.7	78	2	4	8	3	5	6	1	.....	1	4264	6862	5	3.26	82.8
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.46	748 3	30.04	763.0	42.8	6.0	84	.....	9	8	.....	4	4	5	.....	.....	5022	8182	6	2.73	69.3
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.44	747.8	30.02	762.5	45.0	7.2	79	4	3	7	4	5	3	.....	2	2	5903	9500	6	6.17	156.7
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.04	737.6	30.00	762.0	38.4	3.6	84	5	4	4	2	4	8	1	2	.....	6050	9736	6	2.54	64.5
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.17	740.9	30.00	762.0	38.1	3.4	81	5	3	7	2	6	4	2	1	.....	4446	7155	7	2.71	68.8
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.34	745.2	30.02	762.5	39.9	4.4	84	1	8	2	.....	5	7	.....	4	3	5818	9363	7	2.33	59.2
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.13	739.9	30.02	762.5	37.5	3.1	86	2	10	3	3	4	4	1	3	....	4993	8045	7	3.08	78.2
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.14	740.1	29.98	761.5	41.0	5.0	75	.....	11	5	4	5	1	2	1	1	4900	7886	8	2.57	65.3
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.25	742.9	29.94	760.5	38.3	3.5	86	3	2	6	8	3	3	1	2	2	7149	11505	9	2.10	53.3
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.18	741.2	29.95	760.7	39.0	3.9	86	3	2	9	3	6	4	.....	3	.....	8632	13892	8	2.66	67.6
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.56	750.8	29.93	760.2	38.1	3.4	81	1	4	3	3	8	6	1	4	.....	8645	13912	9	2.17	55.1
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.20	741.7	29.96	761.0	39.1	3.9	77	4	5	4	7	6	3	.....	1	.....	8372	13473	9	5.83	148.1
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.29	744 0	30.00	762.0	38.7	3.7	79	4	4	5	8	8	.....	.....	1	.....	10060	16190	9	2.75	69.8
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.21	741.9	29.97	761.2	38.3	3.5	85	1	4	5	6	6	5	1	2	.....	8329	13404	8	4.67	118.6
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.27	743.4	29.99	761.7	39.3	4.1	86	4	5	7	7	5	1	.....	1	.....	6431	10350	9	3.10	78.7
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.23	742.4	29.97	761 2	39.8	4.3	85	3	7	6	6	5	2	1	.....	.....	7679	12355	10	2.19	55.6
Upper lake region																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.25	742 9	29.94	760.5	33.5	0.8	88	4	1	11	3	7	1	.....	3	.....	6559	10546	8	2.56	65.0
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.27	743 4	29.97	761.2	32.4	0.2	88	5	7	4	2	.....	4	8	.....	.....	6020	9688	9	3.41	86.6
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.27	743 4	29.96	761.0	37.3	2.9	79	3	4	5	3	3	2	6	3	1	8538	13740	9	1.03	41.4
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.24	742.7	29.93	760.2	35.8	2.1	80	4	8	2	3	6	2	5	.....	.....	7963	12815	9	2.21	56.1
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29 20	741.7	29.97	761.2	33.4	0.8	87	4	4	13	2	.....	2	3	2	6347	10214	10	4.10	104.1
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.24	742.7	29.95	760.7	36.8	2.7	86	1	4	6	8	6	2	1	2	.....	7581	12200	9	3.10	78.7
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.25	742.9	29.98	761.5	39.3	4.1	80	3	5	7	8	3	1	.....	3	.....	a6185	a9954	7	2.33	59.2
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.19	741.4	29.97	761.2	35.2	1.8	84	3	9	8	5	2	1	.....	2	.....	8456	13608	7	1.53	38.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	a29.25	a742 9	a30.03	a762.7	f 29.2	f—1.6	f 86	5	11	4	1	1	4	.....	3	1	6110	9833	a7	1.37	34.8
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.07	738.4	30.01	762.2	29.9	— 1.2	91	3	2	9	.....	1	.....	5	2	8	4030	6486	8	0.60	15.2
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.18	741.2	29.98	761.5	34.5	1.4	79	4	8	2	1	8	.....	.....	4	3	4995	8038	8	0.60	15.2
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.32	744.7	30.00	762.0	33.7	0.9	86	3	7	4	3	2	2	3	4	2	5004	8053	6	1.20	30.5
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.08	738.6	30.00	762.0	34.1	1.2	86	9	3	3	2	2	4	3	3	1	4124	6637	6	0.61	15.5
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.26	743.2	29.98	761.5	33.2	0.7	84	3	7	5	1	4	.....	1	2	7	3358	5404	7	0.64	16.3
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.32	744.7	30.00	762.0	35.2	1.8	84	2	8	3	3	2	2	6	3	1	6195	9970	5	0.88	22.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for November, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.																										
U. Miss. val.—Con.	° ′	° ′																								
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.66	753.4	30.03	762.7	43.4	6.3	78	.....	5	7	3	6	4	2	3	.....	6067	9764	6	2.79	70.9
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.32	744.7	30.00	762.0	41.2	5.1	74	3	7	3	2	5	3	4	.....	3	6978	11230	6	1.44	36.6
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.38	746.2	30.00	762.0	43.9	6.6	79	1	6	0	4	4	7	1	1	.....	9000	15932	5	1.68	42.7
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.46 a.m.	842	257	29.11	739 4	30.03	762.7	37.6	3.1	78	6	6	2	.....	6	3	2	1	4	4463	7182	5	1.86	47.2
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.83	732.3	30.05	763 3	35.2	1.8	89	4	11	.....	1	5	8	.....	.....	1	6040	9720	5	0.73	18.5
Fort Bennett	N. 44 43	W.100 39	5.17 a.m.	1510	460	28.37	720.0	30.06	763.5	27.2	—2.7	87	7	6	2	2	4	9	.....	.....	.....	5442	8758	5	0.28	7.1
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28 57	725.7	30.05	763 3	25.4	—3.7	73	1	6	1	.....	3	11	1	2	5	5467	8798	5	1.50	38 1
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.67	728.2	30.05	763.3	28.6	—1.9	88	2	9	.....	2	1	2	5	7	2	5900	9495	4	2.69	68.3
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.93	734 8	30.04	763.0	40.6	4.8	78	4	5	.....	9	4	4	1	3	.....	7777	12516	5	0.49	12.4
Valentine	N. 42 50	W.100 32	5.18 a.m.	2604	793	27.24	691.9	30.05	763.3	29.2	—1.6	83	2	5	7	7	2	2	2	.....	3	7482	12041	5	0.31	7.9
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.98	736.1	30.05	763.3	25.1	—3.8	92	7	3	1	1	8	6	1	2	1	7332	11800	6	0.64	16.3
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.14	740.1	30.09	764.3	24.6	—4.1	89	3	10	.....	.....	6	7	1	1	2	5996	9650	8	1.12	28.4
Bismarck	N. 46 47	W.100 38	5.17 a.m.	1694	516	28.13	714.5	30.06	763.5	27.0	—2.8	86	5	5	.....	.....	2	2	9	1	6	4196	6753	6	0.66	16.8
Fort Buford	N. 48 00	W.103 56	5.04 a.m.	1930	588	27.88	708.1	30.05	763.3	29.3	—1.5	93	1	3	3	3	4	1	12	1	2	4646	7407	7	0.56	14.2
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.36	720.3	30.07	763.8	22.9	—5.1	87	4	7	.....	2	5	8	3	1	.....	8933	14376	8	0.90	22.9
Northern slope.																										
Ft. Assinnaboine	N. 48 32	W.109 42	4.41 a.m.	2720	829	27 04	686.8	30.04	763.0	33.1	0.6	67	.....	.....	6	14	4	2	4	.....	.....	7846	12617	4	0.16	4.1
Fort Benton	N. 47 50	W.110 40	4.37 a.m.	2681	817	27.07	687 6	30.03	762.7	31.1	—0.5	81	.....	.....	6	9	1	.....	.....	2	12	2692	4332	5	0.65	16.5
Fort Custer	N. 45 42	W.107 34	4.50 a.m.	3040	927	26.76	679.7	30.08	764 0	29.7	—1.3	80	1	2	.....	.....	4	18	4	1	.....	4170	6711	5	0.24	6.1
Fort Maginnis	N. 47 12	W.109 10	4.43 a.m.	4340	1323	25.44	646 2	30.04	763.0	34.7	1.5	64	10	8	8	.....	.....	.....	2	2	...	6473	10417	8	0.67	17.0
Fort Shaw	N. 47 31	W.111 48	4.33 a.m.	3550	1082	26.24	666 5	30.07	763.8	34.1	1.2	71	.....	.....	19	5	3	1	.....	1	1	6894	11095	4	0.03	0.8
Helena	N. 46 34	W.112 04	4.32 a.m.	4069	1240	25 74	653.8	30.08	764 0	34.9	1.6	67	2	1	5	16	3	2	.....	.....	1	4561	7340	5	0.15	3.8
Poplar River *g*	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.78	705 6	30.08	764.0	24.8	—4.0	85	d5	3	5	2	.....	3	4	1	3	1162	1870	7	0.29	7.4
Deadwood	N. 44 23	W.103 43	5.05 a.m.	4600	1402	25.30	642.6	30.14	765.5	36.1	2.3	79	2	.....	4	12	1	2	1	3	5	2352	3785	2	1.40	35.6
Cheyenne	N. 41 08	W.104 48	5.01 a.m.	6105	1861	23.94	608.1	30.16	766.1	33.5	0.8	64	3	14	10	2	.....	.....	.....	.....	1	8376	13480	3	1.11	28.2
North Platte	N. 41 08	W.100 45	5.17 a.m.	2841	866	27.02	686.3	30.08	764 0	23.9	—0.1	88	1	4	15	.....	2	2	6	.....	.....	4637	7462	3	1.71	43.4
Middle slope.																										
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	14134	4308	17.69	449.3	30.34	770.6	11.8	—11.2	85	8	7	7	4	.....	.....	.....	2	2	17057	27440	3	0.87	22.1
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.50	723 9	30.01	762.2	34.9	1.6	89	2	4	2	2	5	2	6	2	5	5303	8534	4	0.61	15.5
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.71	627.6	30.20	767.1	35.3	1.8	67	1	1	1	3	23	1	.....	.....	.....	5066	8153	3	0.55	14.0
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899?	11887	26.00	660.4	30.09	764.3	31.1	—0.5	87	1	4	16	5	.....	.....	1	2	1	4499	7240	4	0.70	17.8
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.36	694.9	30. 6	763.5	37.4	3.0	78	.....	7	9	2	4	4	2	.....	2	6652	10705	4	0.36	9.1
Fort Elliott *b*	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.21	691.1	30.12	765.0	38.3	3.5	68	1	10	3	5	1	1	1	1	5	6581	10591	2	0.25	6.3
Southern slope.																										
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.79	731.3	30.07	763.8	40.6	4.8	84	10	2	.....	3	2	3	.....	3	7	6890	11088	3	1.28	32.5
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.24	717 3	30.13	765.3	47.3	8.5	80	3	6	1	6	7	2	1	1	3	6585	10597	3	0.23	5.8
Fort Stockton *l*	N. 30 53	W.102 53	5.08 a.m.	3004	916	27.07	687.6	30.15	765.8	48.1	8.9	70	2	1	4	1	.....	4	.....	.....	6	2259	3636	1	0.14	3.6
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25.21	640.3	30.07	763.8	44.5	6.9	57	3	3	1	11	.....	.....	.....	2	10	5145	8280	2	0.01	0.3
Fort Stanton	N. 33 30	W.105 26	4.58 a.m.	6100?	1859?	23.98	609.1	.....	.....	34.9	1.6	76	.....	12	12	1	1	2	1	.....	1	5289	8512	3	0.50	12.7
Southern plateau.																										
Keeler	N. 36 35	W.117 50	4.09 a.m	3622?	1104?	26.30	668.0	.....	.....	46.9	8.3	65	6	1	.....	.....	3	2	10	2	6	4122	7116	2	0.65	16.5
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	23.28	591.3	30.13	765.3	34.3	1.3	63	9	....	1	1	3	1	4	9	2	5170	8320	3	1.01	25.7
Fort Thomas	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.31	693.7	30.12	765.0	37.1	2.8	72	2	1	13	1	2	1	2	1	7	2125	3420	3	0.38	9.7
Fort Apache	N. 33 48	W.109 57	4.40 a.m.	5050	1539	25.08	637.0	30.16	766.1	37.2	2.9	72	2	.....	.....	.....	2	.....	1	6	12	7	3715	5979	3	1.56	39.6
Fort Grant	N. 32 39	W.109 57	4.40 a.m.	4856	1480	25.27	641.8	30.08	764.0	46.5	8.1	55	15	7	2	.....	1	4	.....	1	.....	4759	7659	3	1.30	33.0
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.74	628.4	30.11	764.8	34.9	1.6	89	1	1	1	4	5	2	1	.....	15	3962	6376	2	2.46	62.5
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.83	757 7	29.95	760.7	55.4	13.0	78	5	3	.....	2	1	3	.....	10	6	3886	6254	2	1.71	43.4
El Paso	N. 31 47	W.106 30	4.54 a.m.	3764	1147	26.31	668.3	30.13	765.3	43.1	6.2	61	4	9	4	1	.....	3	3	1	5	3098	4986	2	0.31	7.9
Middle plateau.																										
Fort Bridger *i*	N. 41 28	W.110 30	4.38 a.m.	6643?	2025?	23.48	596 4	.....	.....	23.9	—4.5	82	.....	.....	3	14	.....	.....	2	1	1	2946	4741	3	0.43?	?10.9
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25.64	651.2	30.20	767.1	40.3	4.6	73	1	.....	2	.....	.....	17	9	.....	1	3705	5962	5	3.10	78.7
Frisco	N. 38 25	W.113 16	4?27 a.m	6400	1950	23 69	601.7	.....	.....	35.2	1.8	69	4	3	1	20	2	.....	.....	.....	.....	8072	12990	4	0.97	24.6
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25.58	649 7	30.10	764.5	36.1	2.3	76	2	.....	1	9	3	.....	2	13	.....	6167	9925	5	3.78	96.0
Montrose	N. 38 30	W.107 56	4.48 a.m.	5825	1775	24.33	618.0	30.29	769.4	27.3	—2.6	77	.....	.....	2	3	.....	20	2	1	2	4020	6469	6	0.50	12.7
Fort Bidwell	N. 41 53	W.120 11	3.59 a.m.	4640	1414	25.35	643 9	.....	.....	34.7	1.5	85	.....	4	7	4	10	.....	.....	.....	5	3574	5752	8	8.46	214.9
Northern plateau.																										
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.13	689.1	30.07	763.8	42.1	5.6	81	2	4	1	.....	.....	11	8	1	3	4105	6606	7	2.07	52.6
Lewiston	N. 46 28	W.117 05	4.12 a.m.	785	239	29.14	740.1	29.97	761.2	40.6	4.8	86	.....	.....	.....	2	.....	7	.....	15	6	2010	3235	7	2.13	54.1
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	27.89	708.4	29.98	761.5	36.8	2.7	87	4	.....	.....	2	9	2	3	3	7	3082	4960	7	4.25	107.9
Dayton	N. 46 19	W.117 56	4.08 a.m.	1683	513	28.16	715.3	29.95	760.7	40.3	4.6	84	4	.....	1	12	3	1	1	3	5	3355	5399	6	2.71	68.8
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W.124 04	3.44 a.m.	179	55	29.54	750 3	29.74	755.4	47.9	8.8	96	.....	1	1	5	13	8	2	.....	...	13197	21238	10	13.72	348.5
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	29.75	755.6	29.80	756.9	44.0	6.7	93	.....	1	.....	.....	25	2	.....	2	2	3159	5084	8	10.18	258.6
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	29.72	754.9	29.74	755.4	40.1	4.5	97	.....	.....	.....	.....	28	2	.....	.....	.....	2072	3335	7	3.90	99.1
Tatoosh Id	N. 48 23	W.124 44	3.41 a.m.	86	26	29.61	752.1	29.71	754.6	47.6	8.7	86	.....	2	.....	8	3	9	8	.....	.....	12173	19590	9	19.25	488.9
Portland	N. 45 32	W.122 43	3.49 a.m	80	24	29.76	755.9	29.85	758.2	44.3	6.8	93	.....	4	1	2	10	7	.....	.....	6	3761	6053	7	8.52	216.4
Roseburg *j*	N. 43 13	W.123 20	3.47 a.m.	523	159	29.31	744.5	29.88	758.9	44.5	6.9	90	.....	.....	1	1	3	1	1	1	12	891	1434	6	8.10	205.7
Mid Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.20	741.7	29.88	758.9	50.3	10.2	88	6	2	.....	.....	4	17	.....	1	.....	20569	33103	8	7.34	186.4
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.62	752.3	29.97	761.2	49.5	9.7	96	8	5	1	1	9	1	.....	3	2	6286	10116	6	17.05	433.1
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	29.92	760.0	29.97	761.2	50.8	10.4	90	3	2	.....	2	2	18	2	1	.....	5985	9632	6	11.34	288.0
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	29.91	759.7	29.96	761 0	55.4	13.0	89	3	2	4	3	9	8	1	.....	.....	5673	9130	6	11.78	299.2
S. Pac. coast reg'n.																										
San Luis Obispo	N. 35 18	W.120 39	3.57 a.m.	270	82	29.70	754'4	29.97	761.2	49.9	9.9	90	5	2	3	2	4	4	2	4	4	5541	8916	5	12.90	327.6
Los Angeles	N. 34 03	W.118 15	4.07 a.m.	339	103	29.64	752.8	29.97	761.2	53.1	11.7	84	2	1	1	.....	.....	2	9	9	6	4702	7566	3	5.55	141.0
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.93	760.2	29.97	761.2	54.5	12.5	90	11	3	2	1	.....	3	5	5	.....	3895	6268	3	1.56	39.6
Alaska stations.																										
Fort Alexander	N. 58 57	W. 158 18	1.27 a.m.	.....	.....	29.56	750.8	29.68	753.9	14.4	—9.8	85	5	1	3	.....	2	.....	4	15	.....	.....	.....	5	0.43	10.9
Ft St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.62	752.3	29.70	754.4	7.7	—13.5	91	10	4	1	1	2	2	6	2	2	9715	15634	6	0.47	11.9
Sitka	N. 57 03	W.135 19	2.59 a.m.	63	19	29.24	742.7	29.34	745.2	39.3	4.1	77	.....	.....	.....	.....	.....	.....	15	13	1	9091	14630	7	9.65	245.1
Unalashka	N. 53 53	W.166 32	0.54 a.m.	13	4	29.59	751.6	29.63	752.6	35.4	1.9	77	2	6	4	8	7	2	1	.....	.....	10165	16359	9	8.75	222.2
Sub-Series.																										
Behring Island	N. 55 12	E.165 55	11.04 p.m.	20	6	29.78	756.4	29.86	758.4	28.7	—1.8	94	5	4	2	3	6	.....	7	3	.....	10408	16750	7	4.08	103.6
Bluefields *c*	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.93	760.2	29.88	758.9	74.6	23.7	93	9	15	1	.....	.....	.....	.....	.....	.....	.....	.....	7	7.70	195.6
Cay Sal Light H	N. 23 56	W. 80 28	6.38 a.m.	?	?	.....	.....	29.99	761.7	75.5	24.2	78	4	6	1	1	2	.....	7	9	.....	.....	.....	5	0.07	1.8
Kingstone	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.92	760.0	76.6	24.8	84	16	.....	.....	.....	.....	1	1	.....	9	961	1546	4	0.66	16.8
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.02	762.5	29.94	760.5	81.3	27.4	77	.....	...	.....	.....	.....	1	18	11	.....	.....	.....	4	1.28	32.5
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.3	25.2	87	1	.....	.....	.....	.....	.....	...	14	.....	.....	.....	4	4.36	110.7
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	64.6	18.1	.....	10	.....	.....	.....	.....	.....	2	18	.....	.....	.....	.....	9.92	252.0

OCEAN SQUARE DATA FOR NOVEMBER, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.89	759.2	81.9	27.7	6	..	.....	.....	.....	.....	2	22	.....	.....	4.2
12.5 27.5	29.93	760.2	82.0	27.8	1	1	.....	.....	.....	.....	7	21	.....	.....	4.0
12.5 32.5	29.94	760.5	81.1	27.3	.....	.....	.....	.....	1	1	18	9	.....	1	4.3
12.5 37.5	29.96	761.0	80.7	27.1	.....	.....	.....	.....	.....	1	24	3	.....	2	3.6
12.5 42.5	29.96	761.0	81.1	27.3	.....	.....	.....	.....	.....	1	24	1	.....	4	4.0
12.5 47.5	29.95	760.7	81.7	27.6	.....	.....	.....	.....	.....	2	23	1	.....	4	3.8
12.5 52.5	29.98	761.5	82.8	28.2	1	.....	.....	.....	.....	4	25	.....	.....	.....	3.7
17.5 22.5	29.93	760.2	79.8	26.6	6	....	.....	.....	.....	.....	4	20	.....	.....	4.3
17.5 27.5	29.96	761.0	80.0	26.7	10	.....	.....	.....	.....	.....	7	13	.....	.....	4.0
17.5 32.5	29.99	761.7	79.2	26.2	.....	.....	.....	.....	.....	.....	17	13	.....	.....	4.7
17.5 37.5	29.99	761.7	79.0	26.1	.....	.....	.....	.....	.....	.....	24	6	.....	.....	4.4
17.5 42.5	29.98	761.5	79.5	26.4	.....	.....	.....	.....	.....	2	25	3	.....	.....	4.5
17.5 47.5	29.98	761.5	80.3	26.8	.....	.....	.....	.....	.....	4	26	.....	.....	.....	4.1
17.5 52.5	29.98	761.5	81.1	27.3	.....	.....	.....	.....	.....	6	23	1	.....	.....	4.0
17.5 57.5	29.96	761.0	82.2	27.9	1	.....	.....	.....	....	10	16	3	.....	.....	3.7
22.5 22.5	29.96	761.0	76.2	24.6	8	1	1	.....	.....	.....	12	8	.....	.....	3.9
22.5 27.5	30.02	762.5	76.9	24.9	9	.....	.....	.....	.....	.....	15	8	.....	.....	4.1
22.5 32.5	30.03	762.7	76.9	24.9	11	.....	.....	.....	.....	.....	17	1	.....	1	4.2
22.5 37.5	30.05	763.3	76.9	24.9	1	.....	.....	.....	.....	4	14	8	.....	3	4.4
22.5 42.5	30.03	762.7	77.2	25.1	.....	.....	.....	.....	3	4	10	10	.....	3	4.7
22.5 47.5	30.03	762.7	78.0	25.6	1	.....	.....	.....	2	6	18	1	.....	2	4.4
22.5 52.5	30.02	762.5	78.8	26.0	2	.....	.....	.....	5	6	15	.....	.....	2	3.9
22.5 57.5	30.00	762.0	79.4	26.3	2	1	.....	.....	4	6	12	4	.....	1	4.1
22.5 62.5	29.99	761.7	79.7	26.5	2	1	.....	1	5	4	12	4	1	.....	4.2
22.5 67.5	29.98	761.5	79.3	26.3	3	.....	2	1	3	6	10	4	1	.....	4.0
22.5 72.5	29.97	761.2	79.3	26.3	1	2	1	3	.....	5	14	4	.....	.....	4.4
27.5 22.5	30.04	763.0	72.7	22.6	6	5	1	1	.....	3	10	4	.....	.....	4.0
27.5 27.5	30.06	763.5	77.1	25.1	8	5	1	.....	1	1	11	2	.....	1	4.2
27.5 32.5	30.08	764.0	74.3	23.5	10	2	.....	3	1	3	6	3	.....	2	4.1
27.5 37.5	30.10	764.5	74.7	23.7	6	.....	.....	1	4	3	6	7	.....	3	4.6
27.5 42.5	30.10	764.5	75.0	23.9	.....	.....	1	2	3	7	4	10	.....	3	4.3
27.5 47.5	30.08	764.0	75.5	24.2	.....	1	1	2	4	4	12	3	.....	3	4.1
27.5 52.5	30.07	763.8	76.0	24.4	1	1	2	2	3	3	14	1	.....	3	4.0
27.5 57.5	30.04	763.0	76.1	24.5	2	2	1	2	4	5	9	3	.....	2	4.2
27.5 62.5	30.02	762.5	76.0	24.4	4	2	1	4	5	7	4	3	.....	.....	4.7
27.5 67.5	29.98	761.5	75.4	24.1	3	2	3	1	6	2	7	0	.....	.....	5.0
27.5 72.5	29.99	761.7	74.5	23.6	2	2	4	4	3	4	6	4	1	.....	4.1
27.5 77.5	29.99	761.7	70.6	21.4	5	7	2	.....	1	3	8	4	.....	.....	3.9
32.5 12.5	30.01	762.2	63.3	17.4	2	5	1	5	5	.....	5	7	.....	.....	4.1
32.5 17.5	30.01	762.2	67.3	19.6	4	2	9	3	2	2	4	2	2	.....	3.8
32.5 22.5	30.02	762.5	68.8	20.4	3	7	7	4	.....	3	5	1	.....	.....	4.6
32.5 27.5	30.05	763.3	70.3	21.3	4	0	8	3	.....	4	3	2	....	.....	4.5
32.5 32.5	30.08	764.0	71.3	21.8	6	7	3	4	2	5	.....	3	.....	.....	4.6
32.5 37.5	30.10	764.5	71.8	22.1	6	5	4	5	1	3	2	4	.....	....	4.8
32.5 42.5	30.11	764.8	72.2	22 3	4	2	7	3	4	2	3	5	.....	.....	4.8
32.5 47.5	30.10	764.5	72.7	22.6	4	.....	5	6	3	3	4	4	.....	1	4.6
32.5 52.5	30.07	763.8	72.9	22.7	5	2	2	4	5	3	3	3	.....	3	4.2
32.5 57.5	30.04	763.0	72.1	22.3	5	3	3	3	6	4	3	2	1	.....	4.5
32.5 62.5	30.02	762.5	70.1	21.2	3	4	3	8	3	3	2	4	.....	.....	4.6
32.5 67.5	29.99	761.7	69.6	20.9	6	3	4	6	4	4	1	2	.....	.....	4.9
32.5 72.5	29.97	761.2	68.3	20.2	5	9	3	5	.....	5	1	2	.....	.....	4.7
32.5 77.5	30.01	762.2	59.2	15.1	10	5	1	3	3	3	2	3	.....	.....	3.3
37.5 12.5	29.96	761.0	61.7	16.5	.....	5	2	10	4	2	1	8	.....	.....	4.5
37.5 17.5	29.93	760.2	64.2	17.9	2	5	3	8	1	1	3	6	.....	1	4.6
37.5 22.5	29.95	760.7	65.7	18 7	4	6	8	4	3	.....	.....	3	.....	.....	4.6
37.5 27.5	29.99	761.7	66.2	19.0	5	7	7	4	4	1	.....	1	.....	1	4.3
37.5 32.5	30.01	762.2	66.8	19.3	5	6	7	6	3	...	.....	1	2	.....	4.4
37.5 37.5	30.04	763.0	67.3	19.0	3	8	10	5	.....	1	1	2	.....	.....	4.3
37.5 42.5	30.04	763.0	67.2	19.6	3	8	8	7	2	.....	2	.....	.....	.....	4.9
37.5 47.5	30.03	762.7	67.4	19.7	4	6	9	9	1	.....	1	.....	.....	.....	5.2
37.5 52.5	30.01	762.2	67.8	19.9	4	5	8	7	4	1	.....	1	.....	.....	5.3
37.5 57.5	29.98	761.5	66.4	19.1	3	5	9	7	4	1	1	.....	.....	.....	5.5
37.5 62.5	29.94	760.5	62.8	17.1	4	8	4	9	3	1	1	.....	.....	.....	5.2
37.5 67.5	29.92	760.0	61.5	16.4	5	8	1	9	3	1	1	2	.....	.....	5.8
37.5 72.5	29.94	760.5	57.0	13.9	3	13	1	5	3	1	1	3	.....	.....	5.4
42.5 12.5	29.88	758.9	58.8	14.9	4	4	3	8	4	4	1	1	.....	1	5.4
42.5 17.5	29.82	757.4	61.0	16.1	1	4	7	7	5	1	4	1	.....	.....	5.6
42.5 22.5	29.81	757 2	61.8	16.6	2	4	8	8	2	2	1	3	.....	.....	5.1
42.5 27.5	29.83	757.7	61.6	16.4	6	6	8	7	.....	.....	1	2	.....	.....	5.4
42.5 32.5	29.87	758.7	61.0	16.1	4	6	7	8	2	.....	1	2	.....	.....	5.6
42.5 37.5	29.89	759.2	60.2	15.7	1	8	8	10	.....	.....	1	2	.....	.....	5.8
42.5 42.5	29.89	759.2	60.0	15.6	1	11	7	8	1	.....	1	1	.....	.....	5.6
42.5 47.5	29.89	759.2	55.8	13.2	3	8	5	8	.....	2	1	1	.....	2	5.1
42.5 52.5	29.89	759.2	54.5	12.5	3	5	8	4	4	1	2	3	.....	.....	5.2
42.5 57.5	29.89	759.2	53.1	11.7	4	7	7	3	4	2	1	3	.....	.....	5.4
42.5 62.5	29.93	760.2	50.1	10.1	3	2	10	6	1	.....	1	6	.....	1	5.6
42.5 67.5	29.93	760.2	45.5	7.5	4	6	4	2	5	1	5	2	1	.....	5.2
47.5 12.5	29.79	756.7	55.8	13.2	1	3	5	7	4	5	1	2	1	1	5.5
47.5 17.5	29.73	755.1	56.7	13.7	1	4	4	9	3	1	3	1	1	.....	5.7
47.5 22.5	29.69	754.1	56.7	13.7	.....	5	4	9	5	2	1	4	.....	.....	5.6
47.5 27.5	29.69	754.1	55.9	13.3	2	7	0	9	1	.....	2	3	.....	.....	5.6
47.5 32.5	29.68	753.9	54.5	12.5	2	7	9	7	3	.....	1	1	.....	.....	5.8
47.5 37.5	29.69	754.1	53.2	11.8	4	8	9	5	3	..	.....	.....	.....	.....	6.2
47.5 42.5	29.73	755.1	49.0	9.4	3	12	5	7	2	.....	1	1	.....	.....	6.2
47.5 47.5	29.76	755.9	42.6	5.9	4	10	7	3	1	3	1	1	.....	.....	5.5
52.5 12.5	29.75	755.6	51.2	10.7	.....	2	7	3	6	9	2	1	.....	.....	5.3
52.5 17.5	29.66	753.4	51.8	11.0	1	2	5	6	6	6	2	2	.....	.....	5.2
52.5 22.5	29.60	751.8	51.6	10.9	3	2	3	7	3	7	2	2	1	.....	5.4
52.5 27.5	29.56	750.8	50.1	10.1	3	3	6	5	3	4	3	2	1	.....	5.7
52.5 32.5	29.56	750.8	48.1	8.9	7	3	4	6	4	1	1	2	.....	.....	5.4
52.5 37.5	29.61	752.1	46.2	7.9	8	4	5	3	2	5	.....	3	.....	.....	5.9
52.5 42.5	29.65	753.1	42.3	5.7	8	7	2	2	2	5	1	1	2	.....	5.9
52.5 47.5	29.72	754.9	37.3	2.9	7	7	3	1	2	4	.....	5	3	.....	5.7
57.5 12.5	29.68	753.9	45.8	7.7	.....	3	5	5	6	8	1	1	1	.....	5.3
57.5 17.5	29.61	752.1	45.9	7.7	1	.....	7	4	7	7	2	2	.....	.....	5.3
57.5 22.5	29.56	750.8	45.1	7.3	.....	.....	8	2	3	19	3	4	.....	.....	5.5
57.5 27.5	29.54	750.3	43.5	6.4	.....	3	2	3	3	6	8	5	.....	.....	5.4
57.5 32.5	29.53	750.0	40.8	4.9	4	4	3	1	2	4	4	7	.....	1	5.3
57.5 37.5	29.57	751.1	38.0	3.3	2	6	2	1	.....	3	5	9	.....	2	5.4
57.5 42.5	29.64	752.8	35.0	1.7	4	6	2	.....	.....	4	4	7	.....	3	5.6
57.5 47.5	29.70	754.4	30.8	−0.7	4	8	1	.....	2	5	1	8	.....	1	4.7

REVIEW.

INTERNATIONAL METEOROLOGY FOR NOVEMBER, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of November, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure is located over the Atlantic Ocean north of the fiftieth parallel, and occupies the ocean between N. 50° to 65° and W. 18° to 40°, with central pressure about 29.53 (750.0). A second area of low mean pressure is charted off the west coast of the North American continent; the southeast quadrant of this area is bounded by the isobar of 29.70 (754.4), which is traced off the coast in N. 50°. At Sitka, Alaska, mean pressure 29.34 (745.2) is shown. In British India the isobar of 29.90 (759.4) forms the northern boundary of an area of relatively low mean pressure which extends over the southern half of the peninsula. Over the Sea of Okhotsk and Kamchatka the mean pressure ranges below 29.90 (759.4). Over Behring Sea the barometric gradient is steep, the mean pressure ranging from 29.86 (758.4) at Behring's Island to 29.63 (752.6) at Unalashka. It will be seen from the chart for this month that the two principal areas of low mean pressure are located in high latitudes, one over the north Atlantic and the other over the north Pacific Ocean.

The area of highest mean pressure charted is located over Asia, with pressure ranging to 30.33 (770.4). The eastern and southern limits of this area cannot be accurately determined owing to an absence of reports; it is calculated, however, that the region of barometric maximum would be in about N. 55°, E. 90°. A second area of high mean pressure is located in Europe, north of the Black Sea, with pressure ranging to 30.24 (768.1) at Lugan. A third area of high mean pressure, bounded by the isobar of 30.20 (767.1), is charted over the western interior of the United States, with pressure ranging to 30.29 (769.4) at Montrose, Colorado. An area of relatively high mean pressure is located over the north Atlantic Ocean, and extends from about N. 27° to 33°, and W. 36° to 47°, with mean pressure ranging to 30.11 (764.5).

Over the United States the mean pressure ranges from 30.29 (769.4) in Colorado to 29.70 (754.4) on the extreme north Pacific coast; in the British Possessions in North America the mean pressure is highest over Manitoba, where it ranges to 30.03 (762.7), and lowest on the Pacific coast, where it averages about 29.60 (751.8). Over the north Atlantic Ocean the range in the barometric mean is 0.58 of an inch. Over Europe the mean pressure ranges from 30.24 (768.1) in southern Russia to 29.79 (756.7) on the coast of Norway; over Asia the mean pressure ranges from below 29.90 (759.4) over Kamchatka and in the southern portion of British India to 30.33 (770.4) at Yeniseisk.

Compared with the chart for the preceding month (October, 1885) the following changes in mean pressure are shown: In the United States there has been an increase in the interior, northern, and in all southern districts, the difference being greatest in the middle and southern plateau districts, where it varies from .10 to .19 of an inch. In the middle Atlantic states, upper lake region, and in the upper Mississippi, Missouri, and Ohio valleys, the pressure differs but slightly from that for the preceding month. In New England and the Canadian Maritime Provinces, and from Montana westward to the Pacific coast, a marked decrease has occurred; in the first-named districts the difference ranged from .10 to .17, and in the last named from .10 to .27 of an inch.

Over the north Atlantic Ocean the permanent area of high mean pressure has moved southwestward, with the barometric mean about .10 of an inch lower than in October; over the northern portion of the ocean marked changes are noted. For November the area of low mean pressure, which was charted over the North Sea for the preceding month, is located over mid-ocean, southwest of Iceland, with a decrease of about .10 of an inch in the average pressure. In Europe there has been a general increase in mean pressure, except over the northern portion of Norway, where slight changes have occurred, and in the southwestern portion, where the mean pressure is lower. In Asia the mean pressure over British India is about .10 higher; over the interior there has been an increase of from .10 to .20 of an inch; over the Japanese Islands and on the Chinese coast the mean pressure is higher; over Behring Sea the mean pressure is slightly lower over the extreme western portion, and about .20 of an inch lower over the eastern part; over the extreme northern portion of the Pacific Ocean the mean pressure is .20 to .30 of an inch lower than for October.

Compared with the corresponding month of previous years the mean pressure was below the normal in the United States, except over a small area including portions of Arizona and New Mexico. The departures were unusually large over the greater portion of the country; east of the one hundredth meridian they exceeded .10 in nearly all districts, and on the middle Atlantic and southern New England coasts they were above .20. The most marked departures occurred on the north Pacific coast, where they ranged from .20 to .35. In Canada the mean pressure was below the normal for November at all stations by an amount ranging from .05 inch at Father Point to .15 inch at Kingston. Over the British Isles the mean pressure, as compared with the normal of corresponding months for twenty years, was slightly below the normal over the western portions, while over the east and northeast portions there was a slight excess. Over France and Spain the mean pressure was nearly .10 below the normal for eight years; in Germany, Denmark, and Scandinavia it averaged .10 to .12 above the average for the month; over Italy it was about .05 below the normal; in Austro-Hungary the average mean pressure was slightly in excess, while over Russia it was about .05 above the average for the month. In British India the mean pressure was somewhat below the normal; over the Japanese Islands the departures were slight.

The following table shows the mean pressure and mean temperature for November, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Nov. mean of 8 (1877-'84) years.	Nov., 1885.	Departure.	Nov. mean of 8 (1877-'84) years.	Nov., 1885.	Departure.
				°	°	°
Austro-Hungary	30.03	30.04	+ 0.01	44.2	44.8	+ 0.6
British Isles	29.86	29.88	+ 0.02	46.1	45.9	− 0.2
Denmark	29.82	30.00	+ 0.18	41.1	39.4	− 1.7
France	30.01	29.95	− 0.06	49.1	50.0	+ 0.9
Germany	29.95	30.02	+ 0.07	42.2	40.1	− 2.1
India	29.95	29.92	− 0.03	74.9	77.1	+ 2.2
Italy	30.00	29.95	− 0.05	55.8	55.9	+ 0.1
Japan		30.04			47.9	
Norway	29.75	29.89	+ 0.14	39.6	37.7	− 1.9
Russia	30.02	30.07	+ 0.05	36.7	29.7	− 7.0
Spain*	30.07	29.96	− 0.11	57.6	55.0	− 2.6
Sweden	29.80	29.90	+ 0.10	30.9	30.6	− 0.3

* Means for seven years only.

The accompanying table shows the deviations in pressure

and temperature at isolated stations during the month of November, 1885, as compared with the means for eight years:

Stations.	Mean pressure.			Mean temperature.		
	Nov. mean of 8 (1877–'84) years.	Nov., 1885.	Departure.	Nov. mean of 8 (1877–'84) years.	Nov., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.22	30.17	— 0.05	41.9	36.3	— 5.6
Archangel, Russia*	29.80	29.86	+ 0.06	22.3	12.4	— 9.9
Athens, Greece	30.05	30.00	— 0.05	63.3	63.3	normal
Beirut, Turkey in Asia	29.99	29.98	— 0.01	72.0	72.3	+ 0.3
Barnaul, Siberia, Asia	30.34	30.33	— 0.01	18.3	17.8	— 0.5
Bridgetown, Barbadoes*	...	29.93	...	...	84.6	...
Cape Town, Cape of Good Hope	...	...	...	73.6	71.8	— 1.8
Ekaterinburg, Russia	30.09	29.98	— 0.11	22.7	16.2	— 6.5
Fort Napier, Natal, South Africa*	29.80	29.87	+ 0.07	76.2	79.4	+ 3.2
Freetown, Sierra Leone	29.74	29.78	+ 0.04	84.6	81.3	— 3.3
Funchal, Madeira Islands	30.10	30.00	— 0.10	69.1	66.9	— 2.2
Gibraltar*	30.13	29.99	— 0.14	64.3	60.0	— 4.3
Havana, Cuba, W. I.	29.98	29.99	+ 0.01	72.9	69.2	— 3.7
Malta, Mediterranean Sea	...	...	...	67.1	65.3	— 1.8
Melbourne, New South Wales	29.95	30.04	+ 0.09	57.2	57.6	+ 0.4
Mauritius, Indian Ocean	29.96	29.99	+ 0.03	77.5	77.0	— 0.5
Mexico, Mexico*	30.24	30.21	— 0.03	49.0	48.7	— 0.3
Nassau, Bahamas, W. I.	30.01	29.98	— 0.03	75.8	74.9	— 0.9
Nikolaevsk on the Amoor, Asia	...	29.88	...	12.5	11.1	— 1.4
Paramaribo, D. Guiana, S. A.	29.90	29.94	+ 0.04	81.2	81.3	+ 0.1
Ponta Delgada, Azores	30.13	29.99	— 0.14	65.2	66.2	+ 1.0
Sandwick Manse, Orkneys	29.71	29.87	+ 0.16	43.0	42.9	— 0.1
San Juan de Puerto Rico, W. I.	29.91	29.94	+ 0.03	78.6	79.3	+ 0.7
Stykkisholm, Iceland	29.60	29.61	+ 0.01	32.0	32.9	+ 0.9
Tashkend, Toorkistan, Asia	30.30	30.22	— 0.08	44.9	48.7	+ 3.8
Thorshavn, Färöe Islands	29.61	29.69	+ 0.08	41.1	41.9	+ 0.8
Tiflis, Russia	30.21	30.16	— 0.05	54.4	52.0	— 2.4
Tokio, Japan	30.04	30.01	— 0.03	47.9	49.1	+ 1.2
Yeniseisk, Siberia, Asia	30.34	30.33	— 0.01	8.6	8.4	— 0.2
Zi-Ka-Wei, China	30.25	30.27	+ 0.02	51.4	46.4	— 5.0

* Means for seven years only.

In the United States the mean temperature was above the normal in all districts, except in the south Atlantic and east Gulf states, where the month was slightly colder than the average for November. The greatest departures above the normal temperature occurred in the extreme northwest and in northern and central Rocky Mountain districts, where they generally ranged from 6° to 10°. In Canada the mean temperature was everywhere above the average; in Quebec, by from 1° to 2°.5; in New Brunswick, Nova Scotia, and Prince Edward Island, from 1°.5 to 3°.5; in Ontario, from 2°.6 to 3°.8, while at Winnepeg, Manitoba, it was 9°.2 above. In the British Isles the mean temperature was about normal; in France it was slightly above the normal; in Spain it averaged from two to three degrees below; in Germany, Denmark, and Scandinavia it was slightly below the average for the month; in Italy and Austro-Hungary slight variations from the normal temperature are noted, while in Russia the average for the month was about seven degrees below the normal. In British India the mean temperature was somewhat above the normal.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Deesa, India	88.1	31.2	Yeniseisk, Siberia	8.4	—13.1
Bridgetown, Barbadoes	84.6	29.2	Nikolaievsk, on the Amoor	11.1	—11.6
San Salvador, Africa	82.0	27.8	Haparanda, Sweden	20.5	— 6.4
Freetown, Sierra Leone	81.3	27.3	Minnedosa, Manitoba	20.7	— 6.3
Parimaribo, Dutch Guiana	81.3	27.3	Ivigtut, Greenland	24.3	— 4.3
San Juan, Porto Rico	79.3	26.3	Behring's Island, Behring Sea	28.7	— 1.8

In the United States the prevailing winds were mostly northwest in the upper Mississippi, lower Missouri, and Ohio valleys, east Gulf states, and on the Atlantic coast south of New England; in the Lake region they were from northwest to southwest; in the west Gulf states and north Pacific coast region they were southerly, while in the Rocky Mountain districts they were variable. In Canada east to north winds prevailed; in British America, west of the eightieth meridian, the winds were variable. Over the north Atlantic Ocean variable winds prevailed within, and in the vicinity of, the area of low pressure north of the fiftieth parallel; between the thirty-fifth and fiftieth parallels the winds were westerly; between N. 25° and N. 35° the winds were variable within the area of high pressure, while to the southward of the twenty-fifth parallel they were easterly. Over the British Isles easterly to southerly winds prevailed, except over the southern portion of England, where they were variable; over Spain the prevailing winds were from south to west; over France they were variable; over Italy they were northerly, except over the extreme southern portion, where they were southerly; over Austro-Hungary and Germany they were mostly from south to east; over Denmark they were easterly; over Scandinavia they were generally from a southerly quarter; over Russia they were variable over the southern portion, and mostly from south to west over the northern half. Over British India the prevailing winds were northerly; over the Japanese Islands and off the coast of Asia they were variable.

In the United States the precipitation was remarkably heavy on the Pacific coast and caused destructive freshets in that region. On the middle Pacific coast the rainfall was about ten inches in excess of the average for the month. The rainfall was also considerably in excess of the average in the middle Atlantic states, while over the interior and southwestern districts there was a general deficiency. In Canada, except in Manitoba and Nova Scotia, the rainfall was slightly in excess of the average for November. Over the British Isles the precipitation was largely in excess over England; in Ireland it was scarcely so great as the average for November, while in Scotland the deficiency was very decided.

In the United States the severest storm of the month was that described as number viii, and a prominent feature in connection with the meteorology of the month was the remarkably heavy rainfall on the Atlantic and Pacific coasts. Over the north Atlantic Ocean the month was marked by generally unsettled weather and moderate to strong gales. In the British Isles the weather varied greatly, averaging fair and dry during the first part of the month and becoming stormy in the latter portion; in Spain the weather was generally fair; in France it was cloudy on the west coast and averaged fair in the interior; in Germany and Scandinavia fair weather prevailed; in central and northern Russia it was cloudy, while over southern Russia and districts bordering on the Mediterranean and Black Seas fair weather prevailed; in British India the weather averaged clear; in the Japanese Islands it was fair to cloudy.

TRACKS OF AREAS OF LOW PRESSURE FOR NOVEMBER, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during November, 1885. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of eight areas of low pressure are traced over the North American continent; the average number for November during the last thirteen years being twelve. The general course of direction of the depressions was east to northeast after passing to the eastward of the one-hundredth meridian. Two depressions are traced nne. along the eastern coast of the United States; four passed northeast over the upper lakes and disappeared in British America, and three are continued as ocean storms, one of which is given a probable track from the Labrador coast to the fortieth meridian. That traced as number viii was the severest storm of the month, and on reaching the Atlantic coast caused severe gales from Eastport, Maine, to Wilmington, North Carolina, and unusually high tides on the New Jersey coast. Area number ii was very severe on the New England coast, and approached the districts bordering on the Atlantic from the sea. Number v also first appeared off the coast, and is remarkable by reason of the unusual length of its path, the depression being traced to the south of Italy. All other areas developed west of the Mississippi River.

These storms are described in detail in the MONTHLY WEATHER REVIEW for November, 1885, under the heading "Areas of low pressure."

Twelve areas of low pressure (numbers ix to xx, inclusive) are traced over the north Atlantic Ocean, four of which are continuations of storms which passed off the coasts of Newfoundland or Labrador. The general course of direction of these depressions was ene., the principal exceptions being numbers xiii and xv, which passed southeastward through European waters.

Number ix apparently developed in the vicinity of Iceland and remained nearly stationary as an area of low pressure during the first four days of the month, with barometric readings ranging below 29.00 (736.6) during the 2d, 3d, and 4th. By noon (Greenwich mean time) of the 5th the centre of depression had moved southeast to the Färöe Islands, with an appreciable increase in central pressure; continuing a southeast course the depression is located north of Scotland on the 6th, after which date it filled up. During the 2d, 3d, and 4th an area of high pressure occupied western Europe and the eastern portion of the ocean south of the fiftieth parallel. On the 5th this area of high pressure had moved northeastward over northern Russia, and the depression over Iceland which had, previous to this date, been held in check, was allowed to advance.

Number x was a continuation of land-depression number ii, and passed northeast over the northern extremity of Newfoundland on the 4th, with pressure below 29.40 (746.7). During the 5th the depression moved northeast, and is located under date of the 6th in N. 57°, W. 39°, with central pressure below 29.20 (741.7); from this position the storm passed southeast to N. 53°, W. 28° by the 7th, with pressure about .20 of an inch higher than on the preceding day; during the 8th and 9th the storm-area was deflected to the northeastward by an area of high pressure located over central Europe, which moved northwestward over Scandinavia by the 10th, and caused the depression to dissipate between Iceland and the Norwegian coast after the 9th. Vessel reports indicated the presence of depression number xi to the northward of Puerto Rico on the 9th, whence it had advanced from the vicinity of the Lesser Antilles. By the 10th the storm had apparently passed northwest and dissipated, although a scarcity of reports from the region north of the West Indies renders it impossible to accurately locate or trace its path.

Number xii is first charted to the southward of the Azores on the 9th, with central pressure about 29.75 (755.6); during the next three days the depression moved slowly eastward, with pressure below 29.00 (736.6) on the 12th, after which date the disturbance showed signs of exhaustion, and after the 13th apparently dispersed off the northwest coast of Africa.

Number xiii was a continuation of depression number v which passed eastward over the northern portion of Newfoundland during the early morning of the 11th, with pressure below 29.00 (736.6). This disturbance passed eastward to the thirtieth meridian by the 14th, by which date the pressure had risen from one to two-tenths of an inch; from the 14th to the 17th it moved southeast, accompanied by storms of great severity and pressure ranging at times below 29.00 (736.6); during the 18th the centre of disturbance entered Spain, and is further traced and described as number xxviii.

Number xiv first appeared on the 13th off the north coast of Scotland, with central pressure about 29.25 (742.9), after which date it passed rapidly eastward over Scandinavia, whence it is traced as number xxvi.

Number xv apparently developed off the coast of the United States, between N. 35° and 40°, whence it moved east of north over the Gulf of Saint Lawrence and Labrador by the 17th, after which it pursued an irregular easterly course to the French coast by the 22d. During the 15th, 16th, and 17th the depression exhibited barometric pressure about 29.30 (744.2), and during its passage through European waters the barometer ranged below 29.20 (741.7). The disturbance is traced over France as number xxx.

Number xvi was a continuation of land depression number vii and passed eastward over Newfoundland during the 20th, with central pressure about 29.30 (744.2), whence it moved to the southwest coast of Ireland by the 25th and was absorbed by number xvii. During the 22d and 23d the disturbance possessed great energy and pressure ranging to about 29.10 (729.1) was shown, after which its individual strength was lessened by the proximity of number xvii.

Number xvii appeared over the ocean south of Nova Scotia, in N. 38°, on the 21st, with pressure 29.30 (744.2), and moved ene. to the west coast of Ireland by the 26th, on which date pressure ranging below 28.60 (726.4) was shown; the depression being further traced as number xxxii. Severe storms attended the course of this disturbance to and including the 26th, after which it commenced to dissipate.

Number xviii was a continuation of land depression number viii and passed off the coast of the United States in about N. 38° during the 23d, with pressure below 29.60 (751.8). By the 25th the centre of depression had moved slightly to the northeastward and by the 26th it had passed eastward to N. 40°, W. 59°, after which it disappeared.

Number xix is charted on the 27th only, in N. 49°, W. 22°, with pressure ranging below 29.00 (736.6), whence it apparently passed northeast and dispersed.

Number xx first appeared as an area of low pressure over the ocean southwest of Iceland where it remained nearly stationary until the 29th when it moved to the eastward of Iceland and disappeared. This depression had pressure ranging below 28.80 (731.5) on the 27th and 28th, after which it commenced to fill up.

Fourteen depressions (numbers xxi to xxxiv, inclusive) are traced over Europe and adjacent waters, the tracks predominating over the Mediterreanean Sea and northern Scandinavia. The general course of direction of the depressions was southeast; two storms assuming a northeasterly track over lower Scandinavia, and one describing a half-circle over central Russia. One depression, which apparently developed off the north coast of Africa, followed a very eccentric course over Italy and the sea to the southwestward, and one passed northeast from the north coast of the Black Sea.

Number xxi apparently developed over west Russia and moved northward to the Gulf of Finland by the 1st, with pressure below 29.40 (746.7). By the 2d it had passed to the northward of Saint Petersburg with a decided increase in pressure, whence it moved eastward to E. 41° by the 3d, after which it circled southeast and south to the north coast of the Caspian Sea by the 5th, without indications of special energy.

Number xxii first appeared over the Gulf of Genoa on the 1st, with pressure below 29.70 (754.4), from which position it passed southeast over Corsica, the Tyrrhenian Sea, and Sicily by the afternoon of the 2d, with slight changes in pressure; subsequent to the 2d the depression apparently passed southeastward beyond the region of observation.

The presence of number xxiii was first indicated to the southeast of Sicily by reports of the 4th, and the depression moved slowly northwest over the island during that and the following date without evidence of marked strength; on the 6th the storm had moved north over Italy, with central pressure about 29.40 (746.7) and generally disturbed conditions over a considerable area; by the 7th the centre of disturbance had circled southwest to the southeast coast of Sardinia; during the next two days it circled northeast and then northwest, finally disappearing to the southward of Sardinia. The erratic course of this depression, subsequent to the 6th, may be attributed to an area of relatively high pressure which occupied central Europe, and which deflected the storm from a normal course and caused its gradual dissipation.

Number xxiv is located over eastern Russia under date of the 11th, whence it apparently passed eastward beyond the region of observation. This depression was slight and unimportant.

Number xxv was a storm of considerable strength which

passed southeastward over the northern extremity of Norway, and over Finland and the White Sea, from the 12th to the 15th, inclusive. On the 14th the depression exhibited pressure below 29.00 (736.6), after which date it commenced to fill up.

Number xxvi was a continuation of ocean depression number xiv and passed rapidly northeastward over Scandinavia and Finland, uniting with number xxv on the 14th.

Number xxvii appeared off the west coast of Sardinia on the 15th and moved east into the Ionian Sea by the 16th and probably dissipated.

Number xxviii was a continuation of ocean depression number xiii, and entered the coast of Portugal on the 18th, with pressure about 29.30 (744.2); it then passed northward into the Bay of Biscay by the 19th, with a marked increase in central pressure, whence it moved southeastward over the southern extremity of Italy by the 22d, without developing noteworthy features.

Number xxix appeared off the north coast of Norway on the 17th and passed southeast into Finland by the 18th, with pressure ranging below 29.00 (736.6), whence it passed southeast into Russia by the 19th, and pursued an easterly course during the next two days, with a gradual increase in central pressure.

Number xxx was a continuation of ocean depression number xv which entered France on the 22d, with pressure below 29.40 (746.7). The storm passed eastward over France during the 22d and 23d, after which it apparently moved northeast and dissipated.

Number xxxi was central on the 22d over the northern extremity of the Gulf of Bothnia whence it had apparently moved from the northwestward. On this date the depression had central pressure about 29.30 (744.2). By the 23d the storm-centre had passed south of east over Finland, with pressure ranging below 29.20 (741.7), after which it disappeared to the eastward over Russia.

Number xxxii was a continuation of ocean depression number xvii and passed along the northwest coasts of the British Isles to the west coast of Norway from the 26th to the 29th, inclusive, disappearing to the northward after the latter date. The depression was accompanied by storms of great violence on the 26th, and exhibited pressure ranging below 28.60 (726.4); subsequent to this date, however, a marked loss of energy was shown.

Number xxxiii was a disturbance of moderate strength which first appeared north of the Black Sea on the 25th, and, passing northeast, disappeared after the 26th.

Number xxxiv was a depression which passed over the ocean to the northward of Scandinavia and the Kola Peninsula during the 24th and 25th, with pressure ranging below 29.40 (746.7) on the 24th, and increasing about .20 of an inch by the 25th, after which date the centre of disturbance passed to the eastward of the region of observation.

The tracks of eight areas of low pressure (numbers xxxv to xlii, inclusive) are traced off the eastern coast of Asia, over Behring Sea and the north Pacific Ocean, of which one apparently originated in the vicinity of the Philippine Islands and moved northwest into the China Sea; two are traced over the Sea of Japan; two over, or in the vicinity of, Hondo; four over Behring Sea, the latter passing over the Aleutian Islands, Alaska, or the Alaska Peninsula into the north Pacific Ocean. From the 1st to the 8th, inclusive, an area of low pressure occupied the ocean in the vicinity of Sitka.

Number xxxv appeared over the Sea of Japan on the 4th and moved northeast to the northern extremity of Yesso by the 5th, where pressure about 29.30 (744.2) was shown; during the next twenty-four hours the depression moved north to the northern extremity of Saghalien, where the pressure ranged below 29.00 (736.6); from this date until the 9th the storm is given a probable path across the Sea of Okhotsk and Kamchatka to the northwest of Behring's Island, where pressure 29.00 (736.6) was shown; by the 10th the depression had passed southeast to the Aleutian Islands, with a considerable increase in central pressure, after which it disappeared over the north Pacific Ocean to the eastward.

Number xxxvi was central on the 7th to the southward of Luzon, Philippine Islands, with pressure below 29.50 (749.3), whence it passed northwest into the China Sea, its course subsequent to the 8th being unknown, owing to an absence of reports; the probabilities are, however, that the storm dispersed over the China Sea.

Number xxxvii appeared over the west portion of Behring Sea on the 11th, whence it had apparently advanced from the westward. On this date the pressure at Behring's Island was 29.00 (736.6), with rain and fresh gales; from the 11th to the 14th, inclusive, the depression is given a probable track eastward over Behring Sea, and on the 15th was central on the west coast of Alaska, in N. 62°, with central pressure about 28.80 (731.5); thence passing southeastward the storm disappeared over the north Pacific Ocean after the 17th without evidence of a marked loss of energy.

A depression, number xxxviii, was indicated on the 11th off the east coast of Hondo, and either dissipated or passed eastward over the ocean where, through an absence of reports, its course cannot be determined.

Number xxxix is first charted to the eastward of the Aleutian Islands under date of the 17th, with pressure about 29.10 (739.1); from this position it moved east and disappeared over the north Pacific Ocean after the 18th.

Number xl apparently passed eastward over the southern extremity of Kamchatka and was central on the 23d south of Behring's Island, with pressure about 29.20 (741.7); thence moving north of east it was central over the Alaska Peninsula on the 25th and 26th, with pressure ranging below 28.90 (734.0), whence it passed east to the vicinity of Sitka, where it remained nearly stationary as an area of low pressure until the close of the month.

Number xli appeared on the east coast of Hondo on the 24th, with central pressure about 29.30 (744.2), whence it moved northwest into the Sea of Japan by the 25th, with slight changes in pressure; subsequent to the 25th the storm apparently moved eastward over the ocean, being deflected to that course by an area of high pressure overlying the continent of Asia.

Number xlii appeared as a depression of slight energy over the southern portion of the Sea of Japan on the 27th, whence it moved northeast to Yesso by the 28th, where central pressure about 29.30 (744.2) was shown; passing slowly northward the depression disappeared over the Sea of Okhotsk after the 29th.

ERRATA.

Fort Assinaboine, both barometer means from August, 1881, to October, 1885, inclusive, are .01 of an inch too low. Atlantic City, both barometer means for August, 1885, are .01 of an inch too low; for September and October, 1885, .02 of an inch too low. Marquette, barometer means for October, 1885, are .01 of an inch too low. Sandy Hook, barometer means for September and October, 1885, are .02 of an inch too low. Fort Alexander, for October, 1885, latitude and longitude, local time, and elevation incorrectly given; should be as printed in this issue. For October, 1885, the southern branch of storm-area number xxiii was incorrectly described as number xxii, the latter being a depression which passed northeast over the Baltic Sea and Finland during the 7th and 8th.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

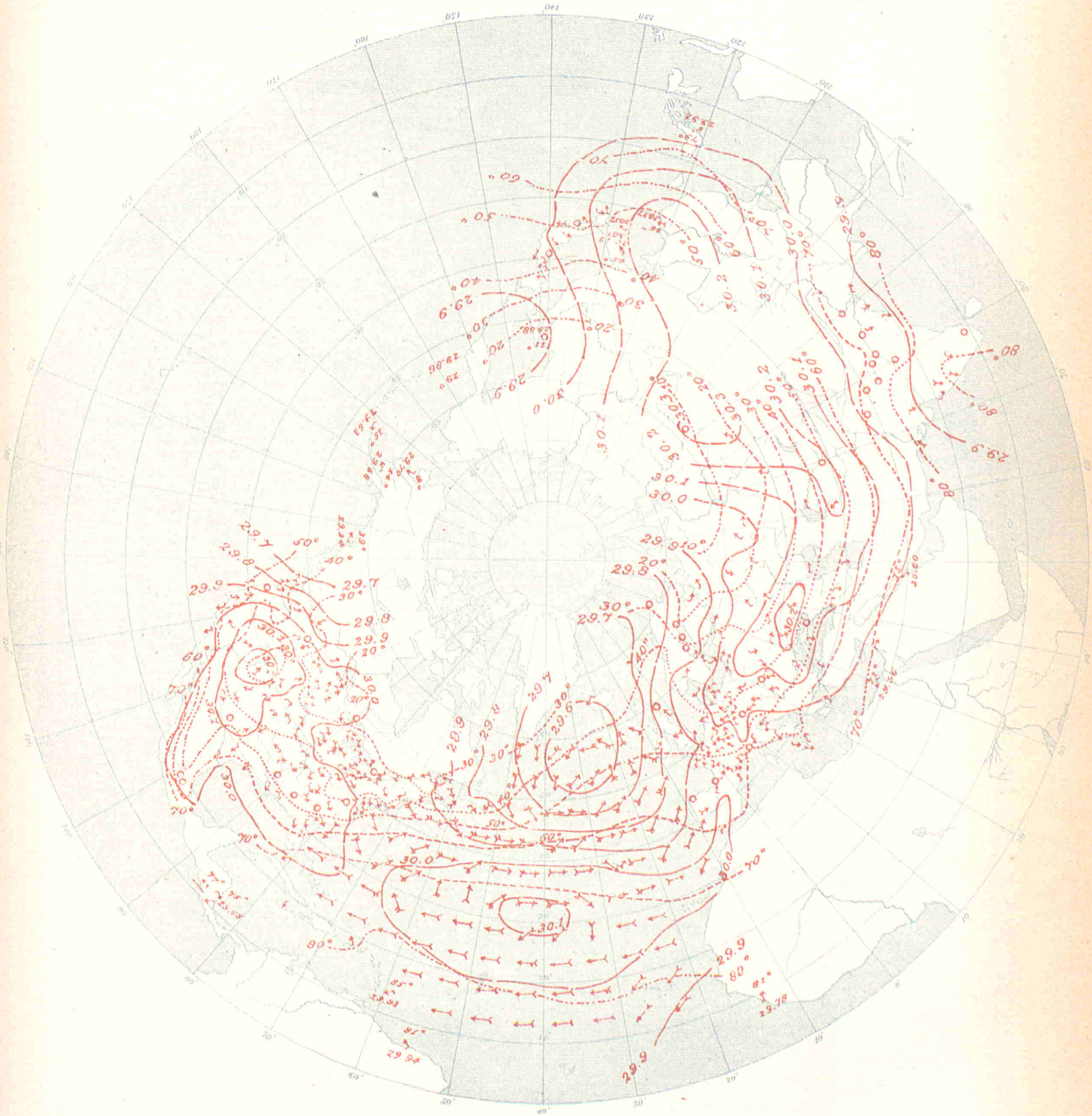
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
Captain, 5th Cavalry, A. S. O. and Asst.,
Acting Chief Signal Officer, U. S. Army.

International Chart II. November, 1885. Isobars, Isotherms, and Winds.



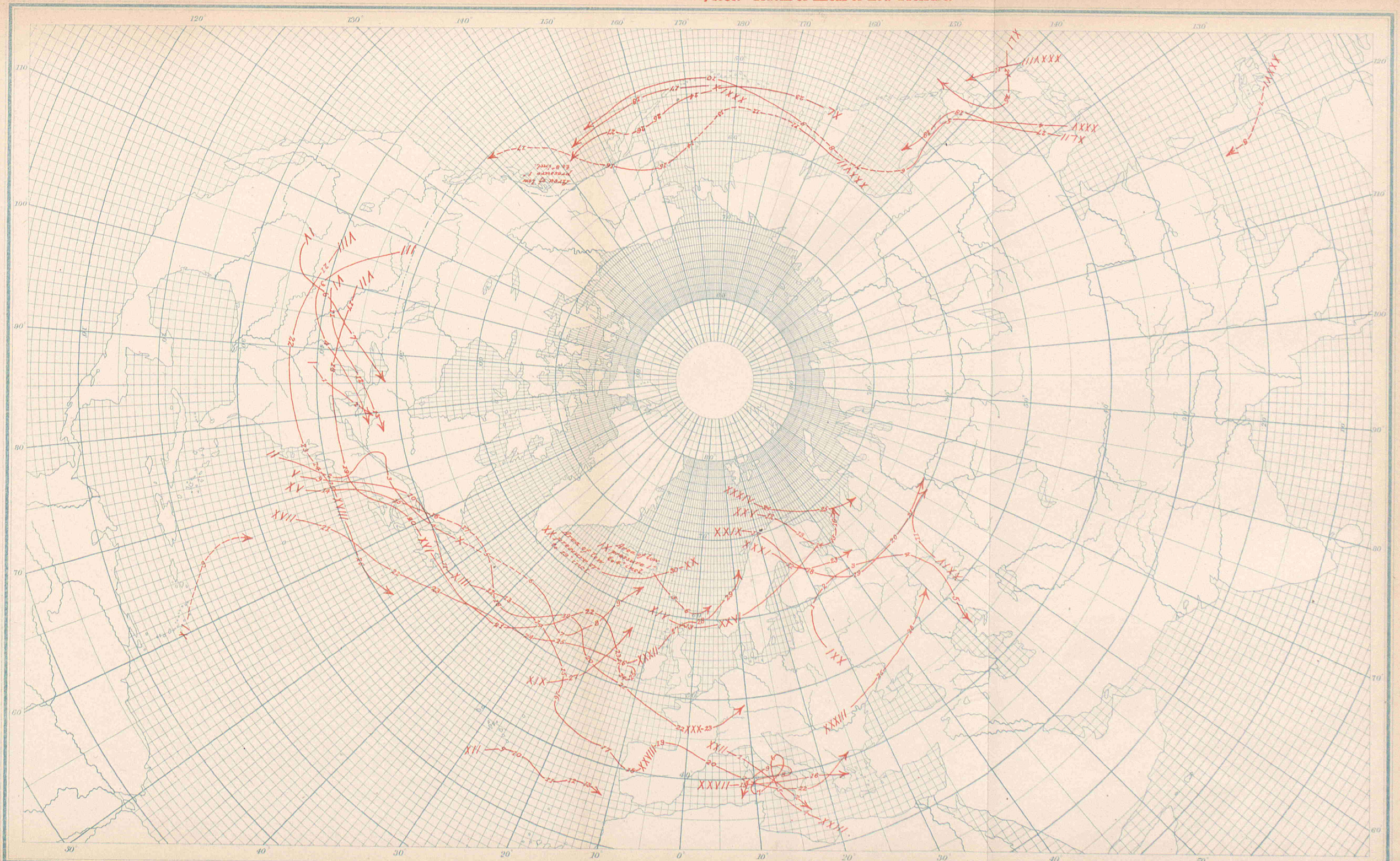
UNITED STATES OF AMERICA.

By Order of the Secretary of War.

A. W. Greely, Acting Chief Signal Officer.

Signal Office Lith.

International Chart III. November, 1885. Tracks of Areas of Low Pressure.


Area of Low Pressure I. on the 22nd 1 hour.
Area of Low Pressure II. on the 23rd 1 hour.
Area of Low Pressure III. on the 24th 1 hour.
Area of Low Pressure IV. on the 25th 1 hour.
Area of Low Pressure V. on the 26th 1 hour.
Area of Low Pressure VI. on the 27th 1 hour.
Area of Low Pressure VII. on the 28th 1 hour.
Area of Low Pressure VIII. on the 29th 1 hour.
Area of Low Pressure IX. on the 30th 1 hour.
Area of Low Pressure X. on the 1st 1 hour.
Area of Low Pressure XI. on the 2nd 1 hour.
Area of Low Pressure XII. on the 3rd 1 hour.
Area of Low Pressure XIII. on the 4th 1 hour.
Area of Low Pressure XIV. on the 5th 1 hour.
Area of Low Pressure XV. on the 6th 1 hour.
Area of Low Pressure XVI. on the 7th 1 hour.
Area of Low Pressure XVII. on the 8th 1 hour.
Area of Low Pressure XVIII. on the 9th 1 hour.
Area of Low Pressure XIX. on the 10th 1 hour.
Area of Low Pressure XX. on the 11th 1 hour.
Area of Low Pressure XXI. on the 12th 1 hour.
Area of Low Pressure XXII. on the 13th 1 hour.
Area of Low Pressure XXIII. on the 14th 1 hour.
Area of Low Pressure XXIV. on the 15th 1 hour.
Area of Low Pressure XXV. on the 16th 1 hour.
Area of Low Pressure XXVI. on the 17th 1 hour.
Area of Low Pressure XXVII. on the 18th 1 hour.
Area of Low Pressure XXVIII. on the 19th 1 hour.
Area of Low Pressure XXIX. on the 20th 1 hour.
Area of Low Pressure XXX. on the 21st 1 hour.
Area of Low Pressure XXXI. on the 22nd 1 hour.
Area of Low Pressure XXXII. on the 23rd 1 hour.
Area of Low Pressure XXXIII. on the 24th 1 hour.
Area of Low Pressure XXXIV. on the 25th 1 hour.
Area of Low Pressure XXXV. on the 26th 1 hour.
Area of Low Pressure XXXVI. on the 27th 1 hour.
Area of Low Pressure XXXVII. on the 28th 1 hour.
Area of Low Pressure XXXVIII. on the 29th 1 hour.
Area of Low Pressure XXXIX. on the 30th 1 hour.
Area of Low Pressure XL. on the 1st 1 hour.
Area of Low Pressure XLI. on the 2nd 1 hour.
Area of Low Pressure XLII. on the 3rd 1 hour.
Area of Low Pressure XLIII. on the 4th 1 hour.
Area of Low Pressure XLIV. on the 5th 1 hour.
Area of Low Pressure XLV. on the 6th 1 hour.
Area of Low Pressure XLVI. on the 7th 1 hour.
Area of Low Pressure XLVII. on the 8th 1 hour.
Area of Low Pressure XLVIII. on the 9th 1 hour.
Area of Low Pressure XLIX. on the 10th 1 hour.
Area of Low Pressure L. on the 11th 1 hour.
Area of Low Pressure LI. on the 12th 1 hour.
Area of Low Pressure LII. on the 13th 1 hour.
Area of Low Pressure LIII. on the 14th 1 hour.
Area of Low Pressure LIV. on the 15th 1 hour.
Area of Low Pressure LV. on the 16th 1 hour.
Area of Low Pressure LVI. on the 17th 1 hour.
Area of Low Pressure LVII. on the 18th 1 hour.
Area of Low Pressure LVIII. on the 19th 1 hour.
Area of Low Pressure LIX. on the 20th 1 hour.
Area of Low Pressure LX. on the 21st 1 hour.
Area of Low Pressure LXI. on the 22nd 1 hour.
Area of Low Pressure LXII. on the 23rd 1 hour.
Area of Low Pressure LXIII. on the 24th 1 hour.
Area of Low Pressure LXIV. on the 25th 1 hour.
Area of Low Pressure LXV. on the 26th 1 hour.
Area of Low Pressure LXVI. on the 27th 1 hour.
Area of Low Pressure LXVII. on the 28th 1 hour.
Area of Low Pressure LXVIII. on the 29th 1 hour.
Area of Low Pressure LXIX. on the 30th 1 hour.
Area of Low Pressure LXX. on the 1st 1 hour.
Area of Low Pressure LXXI. on the 2nd 1 hour.
Area of Low Pressure LXXII. on the 3rd 1 hour.
Area of Low Pressure LXXIII. on the 4th 1 hour.
Area of Low Pressure LXXIV. on the 5th 1 hour.
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Area of Low Pressure DLVII. on the 8th 1 hour.
Area of Low Pressure DLVIII. on the 9th 1 hour.
Area of Low Pressure DLIX. on the 10th 1 hour.
Area of Low Pressure DLX. on the 11th 1 hour.
Area of Low Pressure DLXI. on the 12th 1 hour.
Area of Low Pressure DLXII. on the 13th 1 hour.
Area of Low Pressure DLXIII. on the 14th 1 hour.
Area of Low Pressure DLXIV. on the 15th 1 hour.
Area of Low Pressure DLXV. on the 16th 1 hour.
Area of Low Pressure DLXVI. on the 17th 1 hour.
Area of Low Pressure DLXVII. on the 18th 1 hour.
Area of Low Pressure DLXVIII. on the 19th 1 hour.
Area of Low Pressure DLXIX. on the 20th 1 hour.
Area of Low Pressure DLXX. on the 21st 1 hour.
Area of Low Pressure DLXXI. on the 22nd 1 hour.
Area of Low Pressure DLXXII. on the 23rd 1 hour.
Area of Low Pressure DLXXIII. on the 24th 1 hour.
Area of Low Pressure DLXXIV. on the 25th 1 hour.
Area of Low Pressure DLXXV. on the 26th 1 hour.
Area of Low Pressure DLXXVI. on the 27th 1 hour.
Area of Low Pressure DLXXVII. on the 28th 1 hour.
Area of Low Pressure DLXXVIII. on the 29th 1 hour.
Area of Low Pressure DLXXIX. on the 30th 1 hour.
Area of Low Pressure DLXXX. on the 1st 1 hour.
Area of Low Pressure DLXXXI. on the 2nd 1 hour.
Area of Low Pressure DLXXXII. on the 3rd 1 hour.
Area of Low Pressure DLXXXIII. on the 4th 1 hour.
Area of Low Pressure DLXXXIV. on the 5th 1 hour.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November, 1885—Continued.

	Name of vessel.	Captain.
	White Cross Line.	
Belg.	s. s. De Ruyter	J. J. Brarens.
	Jan Breydel	H. Meyer.
	Pieter de Coninck	E. Smit.
	White Star Line.	
Br.	s. s. Adriatic	H. Parsell.
	Celtic	Benj. Gleadell.
	Germanic	C. W. Kennedy.
	Republic	P. J. Irving.
	Wilson Line.	
Br.	s. s. Galileo	Richard Potter.
	Lepanto	B. H. Rogers.
	Otranto	F. Kerr.
	Sorrento	Wm. Abbott.
	Salerno	J. T. Rogers, R. N. R.
	Watts, Ward Line.	
Br.	s. s. Acton.	R. P. Gowing.
	Miscellaneous.	
Br.	s. s. Aboraca	Robt. Temple.
Ger.	Brutus	J. A. Voege.
Br.	Bedford	Thos. Altkenhead.
	Camden	S. R. Chandler.
	Cranbrook	John W. Harvey.
	Coventry	W. C. Bacon.
	Edith Godden	John H. Bennett.
	El Callao	Jos. Scholtz.
	Elstow	Thos. Robertson.
	Glenochil	Robert Hay.
	Joseph Forens	John Mehegan.
Am.	Lord Lansdowne	C. H. Baskfill.
Br.	Lorenzo D. Baker	W. F. Wiley.
	Menzaleh	J. B. McKie.
	Pomona	C. E. Cook.
Ger.	Prydain	Moses Perry.
Br.	Rhiatea	J. Viereck.
	Roman	David Williams
	Saint Ronans	Henry Campbell.
	Stag	Jas. Adams.
	Strathleven	C. W. Pearson.
Span.	Sulina	Thos. Potter.
Br.	Valentia	Ch. Offl. J. A. Estopiñá.
	Vertumnus	Capt. John Legoe.
	N. Y. Herald Weather Service.	
Am.	s. s. Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell
	Ailsa	J. W. Sansom.
	Alene	E. J. Solders.
	Algiers	J. B. Percy.
	Arizona	Sam. Brooks.
Belg.	Belgenland	W. A. Beynon.
Am.	City of Alexandria	J. W. Reynolds.
Br.	City of Chicago	Fred. Watkins.
	Celtic	Benj. Gleadell.
Am.	City of Puebla	John Deakin.
Br.	Claribel	T. M. McKnight.
	City of Richmond	Authur Lewis.
Am.	Colon	Chas. C. Lima.
	Chalmette	Robert B. Quick.
Ger.	Donau	C. Pohle.
	Ems	W. Willigerod.
Dan.	Geiser	F. V. Schlerbeck.
Ger.	Lessing	B. Voss.

	Name of vessel.	Captain.
	Herald Weather Service—Con.	
Dtch.	P. Caland	T. H. Bonjer.
Br.	Persian Monarch	Jas. Watson.
Belg.	Penniand	R. Weyer.
Br.	Republic	P. J. Irving.
Belg.	Rhynland	J. C. Jamison.
Br.	State of Pennsylvania	A. J. Mann.
	State of Nebraska	A. G. Brace.
Belg.	Switzerland	H. Buschmann.
Fr.	St. Laurent	M. de Jousselin.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Westernland	Com. W. G. Randle.
	Sailing Vessels.	
Am.	bg. Abbie Clifford	Capt. D. W. Stores.
	schr. Abbie H. Ghcen	W. W. Ghcen.
Br.	bk. Abyssinian	John Hughes.
	bg. Achsah	Alfred M. Shaw.
It.	bk. Agostino Rombo	Vincenzo Basso.
Am.	Albemarle	W. H. Forbes.
	schr. Anna T. Ebener	W. W. Cherry.
	bk. Antonio Sala	F. H. Mitchell.
	bg. Arcot	J. W. Cates.
Nor.	bk. Artemis	E. E. Moe.
Ger.	Athena	A. Witte
	bg. Betty	S. Wohlmuth.
Br.	sp. British Isles	G. Southcott.
	sp. Chas. S. Whitney	Geo. D. Spicer.
	City Camp	D. McLeod.
Ger.	Columbus	B. Sauermilch.
Ger.	sp. Derby	B. Fortmann.
Am.	bk. Don Justo	J. P. Jones.
	schr. Emily Shepard	E Coggins.
	Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	George J. Pearce.
Am.	schr. Florence Rogers	J. S. F. McLeod.
Ger.	bk. Freiheit	H. Spleska.
Dan.	Galeon	H. H Kalsboll.
Am.	sp. Gamaliel	C. S. Powell.
Br.	bkt. George	W. H. Champlain.
Am.	bk. Gemsbok	—— Adams.
Ger.	George Washington	J. Probst, jr.
Am.	schr. Governor Hall	John Cain, jr.
Br.	bg. Harry & Aubrey	J. N. Tedford.
Ger.	bk. Heinrich & Tonio	L. Myer.
	sp. Hedwig	Th. Minssen.
Br.	Hermon	F. N. Marvin.
Am.	bk. Idaho	W. S. Richardson.
Ger.	sp. J. W. Gildemeister	Arnold Lehmann.
Am.	bg. John Wesley	J. H. Hines.
Br.	Kenilworth	P. Doig.
Am.	L. & W. Armstrong	Albion Alexander.
	L. F. Munson	J. A. Smith.
Br.	Lilian	H. F. Schive.
Nor.	bk. Lovspring	G. Thomsen.
Br.	bkt. Lydia	Geo. Lowery.
Am.	schr. Maggie Abbott	D. C. McIntosh.
	bg. Mary Fink	Daniel B. Darrah.
	schr. Nelson Bartlett	Samuel Watts.
Nor.	bk. Nordcap	E Salvosen.
Ger.	sp. Palme	William Bahls.
Dan.	bk. Rialto	N. P. Hansen.
Am.	sp. Rembrandt	J. W. McGilvery.
Br.	bk. River Ganges	Thos. Nalle.
Am.	schr. Sarah D. J. Rawson	Thos. D. French.
	bk. Sarah Doe	B. S. Merryman.
Br.	sp. Servia	E. M. Smith.
Nor.	bk. Tros	Severin Brager.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	Western Chief	F Sander.
Am.	Xenia	N. E. Reynolds.

Name of vessel.	Captain.
British Naval.	
H. M. S. Alexandra	H. G. Andoe.
H. M. S. Audacious	H. L. Pearson.
H. M. S. Active	Com. R. O. B. Fitzroy, C. B.
H. M. S. Bacchante	A. W. Moore.
H. M. S. Cleopatra	A. Shornberg.
H. M. S. Champion	A. T. Powlett.
H. M. S. Constance	F. Proby-Doughty.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Diamond	F. S. Clayton.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Garnet	H. H. Boys.
H. M. S. Himalaya	H. B. Palliser.
H. M. S. Heroine	F. R. Blackburn.
H. M. S. Kingfisher	J. H. Rainer.
H. M. S. Lark	J. F. Pullen.
H. M. S. Midge	E. Hockam.
H. M. S. Mariner	Com. J. Durnford.
H. M. S. Mirander	R. H. Paul.
H. M. S. Nelson	A. Lake.
H. M. S. Orontes	C. B. Theobald.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Ruby	C. F. Hocham, C. B.
H. M. S. Superb	H. F. Cleveland.
H. M. S. Satellite	A. H. Allington.
H. M. S. Swiftsure	Hon. T. S. Brand.
H. M. S. Tamar	J. B. Warren.
Portuguese Naval.	
H. P. M. S. Tomega	José d'Almeida d'Avila.
Dutch Naval.	
Bromo	
Koningen Emma der Nederlander	
Prins Hendrick der Nederlander	
United States Naval.	
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Enterprise	
U. S. S. Galena	W. Chester.
U. S. S. Hartford	E. P. Lull.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Juniata	P. F. Harrington.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Michigan	J. J. Read.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Nipsic	W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsly.
U. S. S. Quinnebaug	N. Ludlow.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	F. T. Windham.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Yantic	F. M. Green.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November. 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	Sgt. G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Jas. R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning, M. D.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	W. McBride, M. A.
Stratford, Ontario	T. C. Hill, C. E.
Sydney, C. B	Magnetic Observatory.
Toronto, Ontario	Prof. N. Wolverton, M. A.
Woodstock, Ontario	Lieut. F. E. Wilmot, R. N.
Yarmouth, N. S	
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, *Normal School*	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Allnard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galxin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Allnard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Sieveking.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.

Stations.	Observers.
JAPANESE—*Continued.*	
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	T. Ohgi
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjaesvar	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
ROUMANIAN.	
Bucharest	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sseliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljow, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin,
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Colonobr.
Starol Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Vifies, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gaden, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF DECEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
FEBRUARY, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December, 1885.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Manitoban	R. Carruthers.
Norwegian	J. G. Stephen.
Prussian	Alex. McDougall.
Sarmatian	Wm. Richardson.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. King	John King.
British Prince	Samuel Nowell.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Lord Gough	E. M. Hughes.
ANCHOR LINE.	
Br. s. s. Australia	Alex. McRitchie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Ethiopia	John Wilson.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLANTIC TRANSPORTAION CO.	
Br. s. s. Surrey	H. Murrell.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Albano	H. R. Hughes.
Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Antillas	B. Morán.
Claribel	T. M. McKnight.
BORDEAUX STEAM NAVIGATION CO.	
Fr. s. s. Chateau Lafite	C. Journiel.
BOOTH'S S. S. Co. (Limited).	
Br. s. s. Clement	Thomas Burley.
Cyril	J. H. Johnson.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CALIFORNIA & MEXICAN S. S. Co.	
Am. s. s. Newbern	E. Middlestadt.
CANADA SHIPPING CO.	
Br. s. s. Lake Nepigon	M. L. Tranmar.
CROMWELL LINE.	
Am. s. s. Louisiana	E. N. Gager.
Hudson	H. R. Freeman.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Oregon	P. Cottier.
Pavonia	B. Woolfenden.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Europa	L. A. Kessal.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	C. Ollive.
Neustria	P. Verrièrs.
FURNESS LINE.	
Br. s. s. Albania	W. Maloney.
Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
Canada	G. de Kersabiec.
St. Germain	E. Traub.
Labrador	P. de Hauterive.
Normandie	E. Franguel.
St. Laurent	M. de Jousselin.

Name of vessel.	Captain.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. W. H. Bates.
Warwick	Capt. P. F. Lobbett.
GUION LINE.	
Br. s. s. Abyssinia	J. Price, R. N. R.
Alaska	Geo. S. Murray.
Arizona	J. Price, R. N. R.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	Capt W. Karlowa.
Gellert	W. Kühlewein.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP CO.	
Br. s. s. Archimedes	W. H. Fairlem.
Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Euclid	Alex. W. Pym.
Halley	W. P. Ballantine
Hevelius	John Carroll.
Belg. Hipparchus	W. Kelly.
Br. Lassell	Robt. Graham.
Mozart	Wm. Spratly.
Olbers	Jas. Clark.
Plato	John P. Bevis.
Belg. Rosse	Jas. Dixon.
Br. Thales	O. Matheson.
LEYLAND LINE.	
Br. s. s. Venetian	W. H. Trant.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Colorado	Jas. Daniels.
Lampasas	M. B. Crowell.
Rio Grande	Jas. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptain Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
Persian Monarch	J. Watson.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
El Dorado	J. W. Hawthorne.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Erin	John Robinson.
France	A. D. Hadley.
Greece	Thos. Foote.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Milligan.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
Gottardo	G. Diliberto.

Name of vessel.	Captain.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	F. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Elbe	F. Hamelmann.
Ems	W. Willigerod
Fulda	R. Riugk.
Hohenzollern	A. Meier.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Nürnberg	A. Jaeger.
Rhein	Th. Jüngst.
Werra	R. Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	Capt. John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
Juniata	S. L. Askins.
Chattahoochee	J. W. Catherine.
Nacoochee	Ch. Off. C. G. S. Burg.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	Capt. H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP CO.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. City of Chester	Thomas Wallace.
Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP CO.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.
Santa Rosa	C. B. Johnson.
PACIFIC MAIL STEAMSHIP CO.	
Am. s. s. Acapulco	W. G. Shackford.
Australia	C. C. Brough.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	J. M. Caverly.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
San José	A. D. Austin.
Zealandia	Henry Webber.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Bermuda	R. Fraser.
Muriel	G. S. Locke
Orinoco	Jas. S. Garvin.
RED "D" LINE.	
Am. s. s. Caracas	W. M. Hopkins.
Philadelphia	Sam. Hess.
Valencia	Wm. Woodrich.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
Leerdam	P. Sliorendregt.
P. Caland	T. H. Bonjor.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. von der Zee.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF DECEMBER, 1885.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
FEBRUARY, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, DECEMBER, 1885.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1885.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.87	758.7	30.03	762.7	68.9	20.5	48	.....	.....	.....	4	7	11	3	1	5	7143	11499	3	0.46	11.7
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.81	757.2	30.01	762.2	57.4	14.1	88	1	2	3	6	7	6	1	2	3	.....	.....	6	1.77	45.0
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.94	760.5	30.02	762.5	63.7	17.6	76	.....	.....	3	3	11	10	2	2	.....	.....	.....	6	1.53	38.9
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.64	752.9	30.23	767.8	33.3	0.7	76	1	.....	10	5	1	2	7	.....	5	.....	.....	7	2.15	54.7
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.36	745.7	30.18	766.5	30.4	— 0.9	84	3	1	12	9	2	.....	4	.....	.....	.....	.....	7	0.87	22.2
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.91	734.2	30.22	767.7	31.6	— 0.2	82	.....	5	2	6	9	4	3	1	1	.....	.....	6	1.14	29.0
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.98	736.0	30.24	768.1	30.0	— 1.1	91	.....	4	7	.....	.....	.....	2	4	14	.....	.....	8	3.61	91.8
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.07	738.4	30.13	765.2	29.8	— 1.2	79	5	8	13	.....	3	.....	2	.....	.....	.....	.....	7	1.30	33.0
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	30.03	762 7	30.14	765.6	46.0	7.8	69	5	7	.....	3	2	.....	7	5	2	.....	.....	5	1.57	39.8
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.66	753.4	30.20	767.0	27.9	— 2.3	81	7	1	9	2	2	3	5	2	.....	.....	.....	6	2.55	64.7
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.87	758.8	30.18	766.6	28.4	— 2.0	88	7	2	2	.....	4	6	2	3	5	.....	.....	7	1.92	48.9
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	30.09	764.2	30.19	766.7	43.5	6.4	61	.....	2	.....	1	.....	1	1	15	11	.....	.....	5	1.13	28.8
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.47	748.5	30.23	767.9	32.2	0.1	79	.....	8	6	.....	.....	7	.....	.....	10	.....	.....	7	3.16	80.2
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.77	756.2	29.99	761.8	78.4	25.8	73	2	6	2	5	1	10	.....	2	3	.....	.....	8	5.73	145.6
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.86	758.4	29.99	761.7	39.7	4.3	78	2	4	8	8	8	1	.....	.....	.....	10360	16672	6	2.15	54.6
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.18	766.6	41.7	5.4	80	3	2	7	9	3	5	.....	2	.....	.....	.....	7	.....	.....
Bolton	N. 53 35	W. 2 28	11.50 a.m.	500	152	29.60	751.8	30.16	766.1	39.9	4.4	84	8	2	4	8	7	1	.....	1	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.73	755.1	30.15	765.8	40.9	4.9	84	9	5	6	6	2	1	.....	2	.....	.....	.....	8	0.76	19.3
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.97	761.2	29.93	760.2	84.1	28.9	68	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	30.11	764.8	30.32	770.1	41.7	5.4	82	1	1	3	1	3	.....	1	21	.....	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	30.06	763.5	30.27	768.8	44.6	7.0	79	8	2	5	3	7	3	2	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.60	701.0	29.87	758.7	81.1	27.3	59	3	.....	.....	.....	.....	1	7	1	19	.....	.....	0	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.61	752.1	29.77	756.1	80.7	27.1	92	9	.....	4	3	5	4	5	.....	1	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	30.08	764.0	30.14	765.5	43.3	6.3	83	2	3	2	7	6	5	1	5	.....	.....	.....	7	1.22	31.0
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	58.5	14.7	93	.....	8	3	.....	.....	.....	1	4	15	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	30.04	763 0	30.22	767.6	40.8	4.9	83	6	1	5	10	3	1	2	3	.....	.....	.....	6	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.96	761.0	30.28	769.1	44.4	6.9	86	2	6	5	2	3	2	4	6	1	.....	.....	8	1.07	27.2
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.20	767.1	30.26	768.6	40.2	4.6	88	6	2	5	12	2	1	2	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.91	759.7	30.19	766.8	41.0	5.0	84	4	2	3	16	2	1	.....	3	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.99	761.7	30.04	763.0	57.9	14.4	71	.....	14	2	5	.....	4	1	5	.....	.....	.....	5	2.65	67.3
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.08	764 0	30.07	763.8	69.5	20.8	76	6	3	1	.....	3	2	8	8	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.99	761.7	30.25	768.3	40.5	4.7	85	3	.....	2	14	3	1	2	2	4	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	30.17	766.3	30.25	768.3	43.5	6.4	77	1	1	2	4	2	4	1	5	11	.....	.....	8	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.99	761.7	30.05	763 3	48.8	9.3	72	10	10	.....	6	6	.....	1	5	.....	.....	.....	7	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.18	766.6	39.8	4.3	83	3	1	11	8	.....	.....	1	7	.....	.....	.....	8	2.70	68.6
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	30.18	766 6	30.22	767.6	45.9	7.7	80	3	1	6	3	3	5	4	6	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.69	754.1	30.06	763.5	57.3	14.1	68	1	10	4	5	2	3	2	4	.....	5354	8616	7	2.00	50.8
Canadian.																										
Bathurst *a*	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.79	756.6	29.83	757.7	15.4	— 9.2	.....	1	2	6	8	.....	1	.....	.....	12	.....	.....	8	3.98	101.1
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.81	757.2	29.86	758.4	30.3	— 0.9	86	6	4	4	6	2	2	1	2	4	6088	9798	8	5.15	130.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.82	757.4	29.89	759.2	15.5	— 9.2	92	5	3	10	5	5	1	.....	2	.....	4034	6492	7	3.51	89.2
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.72	754.9	29.97	761.2	18.0	— 7.8	92	1	6	3	7	.....	3	6	5	.....	.....	.....	7	2.46	62.5
Dalhousie *b*	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.85	758.2	29.92	760.0	16.1	— 8.8	.....	.....	2	14	.....	.....	.....	5	1	7	.....	.....	6	3.60	91.4
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.87	758.7	29.91	759.7	13.4	—10.3	91	3	4	4	6	4	3	1	4	2	12241	19709	8	3.76	95.5
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.15	740.4	30.07	763.8	4.6	—15.2	97	3	7	2	2	6	6	1	1	3	8253	13282	6	1.22	31.0
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.73	755.1	29.94	760.4	17.0	— 8.3	87	4	8	12	1	3	1	1	1	.....	6413	10320	6	3.98	101.1
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.84	757.9	29.90	759.4	28.2	— 2.1	76	2	8	4	6	1	1	1	6	2	13132	21134	8	3.77	95.8
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.86	733.0	30.05	763 2	24.8	— 4.0	97	7	.....	10	1	2	2	1	.....	8	5004	8053	8	4.94	125.5
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.73	755.1	29.86	758.4	27.8	— 2.3	87	4	8	9	5	.....	2	.....	3	.....	.....	.....	7	8.99	228.6
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.63	752.6	30.06	763.5	27.7	— 2.4	83	3	1	7	12	2	5	.....	1	.....	.....	.....	8	2.00	52.3
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.62	752.3	29.98	761.5	21.2	— 6.0	89	1	4	8	3	4	1	2	8	.....	5317*a*	8557*a*	8	3.43	87.1
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.77*c*	756.2*c*	29.81*c*	757.2*c*	*c* 27.0	— *c* 2.8	*c* 78	.....	6	5	12	4	1	.....	1	.....	.....	.....	8*b*	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.08	738.6	30.03	762.8	25.8	— 3.4	89	3	2	3	8	2	.....	1	.....	12	.....	.....	9	4.97	126.2
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.03	701.8	30.02	762.5	25.5	— 3.6	78	.....	1	1	3	8	.....	.....	1	17	.....	.....	4	.....	.....
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.03	711.7	30.04	763.0	6.1	—14.4	92	2	7	3	.....	1	3	3	1	11	5679	9137	4	1.08	27.4
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.74	755.4	29.97	761.2	17.0	— 8.3	81	3	1	11	3	4	.....	5	2	2	.....	.....	7	5.05	128.3
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.71	754.6	29.98	761.5	14.2	— 9.9	93	3	6	8	1	.....	2	4	7	.....	4886	7863	6	2.84	72.1
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.22	742.2	29.96	761.0	19.4	— 7.0	81	7	1	5	.....	6	6	5	.....	1	7775	12512	8	4.99	126.7
Peterborough *a*	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	21.9	— 5.6	88	1	2	2	9	1	.....	.....	7	8	.....	.....	9	1.58	40.1
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.25	742.9	30.02	762.5	13.5	—10.3	82	4	6	6	4	2	1	.....	.....	8	3644	5864	6	0.42	10.7
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.28	743.7	29.99	761 7	27.0	— 2.8	99	1	.....	8	4	2	.....	1	3	12	4580	7371	8	3.19	81.0
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.34	745.2	30.01	762.2	26.5	— 3.1	89	6	2	15	3	.....	1	3	1	.....	.....	.....	7	3.36	85.3
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.59	700.8	30.04	763.0	12.0	—11.1	81	1	8	3	10	2	1	.....	6	8144*a*	13106*a*	5	0.72	18.3
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.55	750.6	29.93	760.2	14.0	—10.0	81	.....	7	9	3	.....	.....	8	.....	4	.....	.....	7	3.33	84.6
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.48	748.8	30.00	762.0	14.1	— 9.9	91	.....	6	7	.....	.....	4	5	.....	9	.....	.....	7	3.21	81.5
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.83	757.7	29.88	758.9	23.8	— 4.6	89	4	10	3	3	1	4	1	4	1	.....	.....	6	4.29	109.0
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.79	756.6	29.93	760.2	23.3	— 4.8	92	4	10	4	3	4	.....	1	3	2	.....	.....	7	5.80	147.3
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.87	758.7	33.6	0.9	.....	.....	9	2	9	1	3	3	4	.....	.....	.....	.....	14.73	376.
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.21	741.9	29.90	761.0	26.0	— 3.3	90	4	2	7	5	4	2	1	4	2	11086	17841	9	4.63	117.6
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.70	729.0	30.05	763.2	24.2	— 4.3	88	1	5	4	7	4	3	4	2	1	6265	10082	9	4.80	121.9
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27 24	691.9	29.99	761.7	20.3	— 6.5	.....	.....	1	14	4	9	1	.....	1	1	.....	.....	.....	0.19	4.8
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.79	756.7	29.86	758.4	29.7	— 1.3	86	2	3	6	7	4	4	.....	3	2	9984	16067	8	7.06	179.3
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.60	751.8	30.00	762.0	26.6	— 3.0	84	3	4	6	9	2	3	1	2	1	8321	13391	9	1.98	50.3
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.90	734.1	30.00	762.0	25.4	— 3.7	84	.....	3	9	9	3	1	1	4	1	.....	.....	9	3.16	80.3
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.84	757.9	29.94	760.5	30.6	— 0.8	81	5	8	4	1	3	.....	7	3	.....	.....	.....	8	9.18	233.2
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.73	755.1	29.93	760 2	32.0	0.0	91	2	4	6	8	5	3	.....	3	.....	.....	.....	5	5.38	136.7
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	29.98	761.5	29.98	761.5	70.9	21.6	91	.....	.....	5	11	2	3	9	.....	1	.....	.....	2	0.26	6.6
Springbok *a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.81	681.0	.....	.....	81.5	27.5	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.23	5.8
Chinese.																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	30.04	763 0	30.10	764.5	63.5	17.5	72	7	.....	.....	.....	.....	.....	15	7	2	.....	.....	4	1.25	31.7
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.28	769.0	30.26	768.6	41.9	5.5	83	7	8	3	2	.....	4	4	3	.....	.....	.....	6	2.06	52.2
Danish.																										
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.89	759.2	29.97	761.2	36.1	2.3	87	4	3	7	11	5	1	.....	.....	.....	.....	.....	8	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.95	760.8	30.00	762.1	37.6	3.1	91	1	7	6	14	.....	1	1	.....	1	.....	.....	7	.....	.....
Ivigtut	N. 61 12	W. 48 —	8.48 a.m.	16	5	29.57	751.1	29.63	752.6	24.8	— 4.0	.....	6	.....	.....	.....	1	3	8	.....	3	10	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	30	11	29.55	750 5	29.64	752.9	27.5	— 2.5	87	.....	.....	4	2	7	2	10	5	1	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.66	753.3	29.72	754.9	38.1	3.4	78	8	1	11	7	1	.....	.....	2	1	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.80	756.9	29.93	760.1	38.7	3.7	84	1	8	5	7	5	2	.....	1	2	.....	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
FRENCH.	o ′	o ′																								o-10		
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.58	751.4	30.23	767.8	42.6	5.9	88	2	4	1	1	2	6	.....	.....	15	.....	.....	6	0.74	18.7
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.72	755.0	30.34	770 5	40.6	4.8	82	10	2	.....	7	6	.....	.....	5	1	.....	.....	.....	1.16	29.6
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.98	761.5	30.24	768.2	39.4	4.1	81	1	.....	2	8	1	1	.....	.....	18	.....	.....	3	3.78	96.0
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20.	30.11	764.8	30.19	766.8	46.9	8.3	67	24	.....	.....	.....	.....	2	4	1	.....	.....	.....	.....	0.18	4.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.69	754.0	30.26	768.7	37.0	2.8	89	2	.....	2	3	4	5	8	7	.....	.....	.....	9	3.52	89.5
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.93	760.3	30.23	767.9	39.4	4.1	83	14	8	2	2	4	1	.....	.....	.....	.....	.....	.....	1.68	42.6
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.29	744.0	30.23	767.8	39.7	4.3	82	2	.....	.....	9	1	1	2	15	1	.....	.....	.....	4.27	108.5
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.97	761.3	30.24	768.2	43.5	6.4	80	5	4	3	3	2	5	1	8	.....	.....	.....	5	1.01	30.8
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.66	753.4	30.24	768.1	41.2	5.1	86	2	1	5	3	.....	1	7	11	1	.....	.....	6	1.74	44.2
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	30.03	762.7	30.28	769 2	46.2	7.9	86	2	1	4	3	5	3	2	10	1	.....	.....	6	1.33	33.8
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	30.15	765.8	30.23	767.9	41.9	5.5	88	.....	5	7	6	2	8	.....	.....	2	.....	.....	.....	1.05	26.6
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.93	760.2	30.27	768.9	37.2	2.9	90	2	3	3	7	8	4	1	1	2	.....	.....	7	2.58	65.6
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.70	751.3	30.23	767 8	36.5	2.5	89	4	3	4	4	8	1	2	5	.....	.....	.....	7	2.50	63.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.85	732.7	30.20	768.5	40.1	4.5	76	6	7	6	2	4	2	3	1	.....	.....	.....	8	0.27	6.9
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.39	746.4	30.27	768.8	40.3	4.6	82	6	3	.....	9	3	.....	.....	9	1	.....	.....	6	1.26	32.1
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.30	744.2	30.29	769.4	36.0	2.2	90	.....	7	4	6	.....	3	2	7	.....	.....	.....	7	4.36	110.8
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.61	701.4	30.24	768.1	41.4	5.2	59	.....	1	.....	.....	.....	.....	.....	12	18	.....	.....	.....	0.43	11.
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	29.00	736.5	30.15	765.8	47.3	8.5	65	5	.....	.....	.....	6	9	2	9	.....	.....	.....	3	0.08	2.0
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.52	749.9	30.33	770.4	37.0	2.8	84	3	5	1	.....	2	.....	8	7	5	.....	.....	.....	0.59	15.1
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.61	726.8	30.21	767.2	38.1	3.4	88	1	3	3	6	.....	1	1	7	9	.....	.....	.....	1.30	33.0
Lamballe	N. 48 28	W. 2 31	11.50 a.m.	253	77	29.98	761.5	30.27	768.8	47.7	8.7	87	6	3	2	8	3	3	.....	.....	6	.....	.....	5	0.98	25.0
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.61	752.0	30.19	766.8	46.6	8.1	66	4	8	.....	4	1	.....	.....	3	11	.....	.....	.....	0.68	17.4
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	30.18	766.6	30.30	769.5	45.3	7.4	81	4	3	3	2	1	2	5	9	2	.....	.....	5	2.45	62.2
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	29.17	740.8	30.26	768.6	39.4	4.1	75	10	4	1	.....	5	7	2	2	.....	.....	.....	6	0.28	7.2
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.95	760.8	30.28	769.1	40.8	4.9	84	6	.....	4	2	2	2	6	9	.....	.....	.....	.....	2.56	65.1
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.87	758.8	30.14	765.6	52.2	11.2	56	....	10	6	.....	1	3	11	.....	.....	.....	.....	.....	0.06	1.4
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.92	632.9	29.76	755.9	39.6	4.2	56	1	.....	13	15	.....	.....	2	.....	.....	.....	.....	3	1.58	40.1
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	30.04	762.9	30.16	766.1	50.5	10.3	65	7	4	2	1	2	1	4	8	2	.....	.....	3	0.34	8.6
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.85	005.7	.....	.....	.....	.....	.....	7	7	.....	1	8	6	.....	2	.....	.....	.....	1	0.46	11.7
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.47	748.4	30.30	769.5	63.9	17.7	86	3	4	5	6	.....	5	1	6	1	.....	.....	.....	3.13	79.5
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	30.14	765.5	30.30	769.7	41.5	5.3	83	4	1	3	3	2	4	8	6	.....	.....	.....	8	5.03	127.8
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	30.04	763.0	30.11	764.7	55.0	12.8	68	.....	.....	.....	2	.....	.....	1	1	27	.....	.....	.....	0.58	14.7
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	30.08	764.0	30.19	766.9	52.0	11.1	59	3	12	2	1	4	2	3	3	1	.....	.....	5	1.78	45.2
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.24	539.4	.....	.....	27.7	— 2.4	35	1	2	6	3	1	1	1	9	7	.....	.....	.....	4.84	123.0
Privas. ..... [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.14	740.1	30.22	767.6	44.8	7.1	76	17	.....	.....	.....	8	1	1	1	4	.....	.....	.....	0.10	2.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.20	040.0	.....	.....	29.1	— 1.6	87	3	2	5	3	4	1	3	10	.....	.....	.....	5	3.27	83.1
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.23	767 8	30.26	768.6	43.9	6.6	80	1	.....	6	2	2	1	2	17	.....	.....	.....	6	1.76	44.7
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	30.00	762.0	30.27	768.8	41.4	5.2	86	.....	4	2	1	.....	5	4	15	.....	.....	.....	7	2.92	74.1
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	28.01	711.4	30.20	767.1	40.8	4.9	86	6	5	1	2	.....	5	4	15	.....	.....	.....	.....	1.05	26.7
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.22	767.6	30.28	769.1	40.5	4.7	83	3	7	3	4	3	5	2	4	.....	.....	.....	6	2.27	57.6
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	30.11	764.9	30.28	769.1	37.9	3.3	85	8	3	1	8	5	2	.....	4	.....	.....	.....	7	2.32	59.0
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.53	750.1	30.26	768.6	43.3	6.3	87	.....	10	3	3	2	5	2	5	1	.....	.....	7	0.97	24.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	30.09	764.2	30.27	768.9	42.3	5.7	84	10	4	1	2	3	1	2	8	.....	.....	.....	7	2.94	74.7
Sub-Series.																												
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	30.11	764.7	30.26	768.5	44.8	7.1	75	6	1	2	4	3	.....	11	4	.....	.....	.....	6	1.26	32.0
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.72	729.6	30.25	768.4	32.4	0.2	84	1	2	7	5	2	2	1	3	8	.....	.....	7	3.05	77.4
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.34	745.3	30.15	765.8	32.9	0.5	77	5	5	4	2	.....	1	.....	.....	14	.....	.....	7	2.31	58.6
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.96	761.0	30.13	765.3	34.3	1.3	80	2	8	8	9	1	.....	.....	.....	3	.....	.....	7	1.29	32.8
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.60	751.7	30.14	765.6	33.6	0.9	79	.....	5	11	5	5	5	.....	.....	.....	.....	.....	8	1.10	28.0
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.78	756.5	30.26	768.5	35.4	1.9	85	1	.....	.....	14	1	2	1	11	1	.....	.....	8	4.51	114.5
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.44	747.7	30.17	766.3	33.1	0.6	82	4	4	3	7	12	.....	1	.....	.....	.....	.....	7	0.97	24.7
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.84	757.9	30 29	769.3	34.5	1.4	79	4	4	2	9	4	1	2	3	2	.....	.....	8	1.40	35.5
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.77	730.7	30.25	768.3	35.2	1.8	85	3	4	1	6	.....	.....	.....	17	.....	.....	.....	8	4.23	107.5
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	30.00	702.1	30.12	765.0	35.2	1.8	91	1	3	1	21	1	3	1	.....	.....	.....	.....	7	0.75	19.1
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	30.02	762.5	30.06	763.4	30.9	2.7	84	2	2	10	14	2	.....	.....	1	.....	.....	.....	7	1.36	34.5
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.73	755.2	30.18	766.5	34.3	1.3	87	2	4	4	10	8	1	1	1	.....	.....	.....	7	1.96	49.7
Magdeburg	N. 52 09	E. 11 37	0.46 p.m.	177	54	29.93	760.1	30.15	765.7	35.1	1.7	85	.....	5	13	4	5	2	.....	.....	2	.....	.....	6	1.11	28.1
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.85	758.2	29.93	760.3	33.6	0.9	82	2	7	11	4	4	1	1	1	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.45	722 7	30.21	767.3	32.9	0.5	82	1	6	1	2	.....	1	6	1	13	.....	.....	8	4.09	103.8
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.93	760.2	29.99	761.7	58.5	14.7	83	2	1	8	12	6	.....	1	.....	1	.....	.....	7	0 63	15.9
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.70	754.3	30.24	768.1	34.9	1.6	80	4	3	12	3	1	.....	3	1	4	.....	.....	8	2.13	54.1
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.31	744.4	30.25	768.4	35.2	1.8	85	2	7	1	6	1	3	1	9	1	.....	.....	8	3.01	76.4
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.00	761.9	30.04	763.1	35.4	1.9	88	2	3	4	13	8	1	.....	.....	.....	.....	.....	8	0.33	8.4
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.67	753.5	30.03	762.7	53.2	11.8	72	15	1	2	4	3	2	.....	4	.....	.....	.....	6	2.01	51.0
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.95	760.8	29.95	760.8	76.6	24.8	44	1	.....	10	14	.....	.....	2	4	.....	.....	.....	1	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.49	749.0	29.97	761.2	79.5	26.4	26	9	9	5	1	.....	3	.....	4	.....	.....	.....	1	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.90	759.3	29.87	758.8	78.3	25.7	65	7	21	3	.....	.....	.....	.....	.....	.....	.....	.....	2	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.10	713.0	29.85	758.2	78.5	25.8	38	5	3	2	6	.....	2	2	11	.....	.....	.....	3	1.31	33.3
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27 36	695.0	29.83	757.6	75.7	24.3	51	1	.....	3	5	1	3	10	8	.....	.....	.....	5	0.14	3.6
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.30	744.2	30.00	762.1	61.6	16.4	32	1	2	.....	.....	.....	.....	3	1	24	.....	.....	3	1.23	31.2
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.10	739.0	29.99	761.7	62.6	17.0	67	.....	.....	9	.....	.....	.....	2	.....	20	.....	.....	2	2.14	54.4
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.45	748.0	29.98	761.6	67.0	19.4	58	.....	4	15	3	.....	.....	6	3	.....	.....	.....	3	0.72	18.3
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.93	734.7	29.93	760.2	72.2	22.3	55	2	.....	.....	.....	2	4	3	2	18	.....	.....	4	4.17	105.9
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.63	727.2	29.90	761.0	67.7	19.8	57	12	1	.....	1	.....	2	.....	2	13	.....	.....	2	4.92	125.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.64	752 9	29.98	761.7	63.3	17.4	67	10	6	.....	1	1	1	1	4	7	.....	.....	3	2.77	70.4
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.71	754.5	29.98	761.5	64.2	17.8	73	1	6	3	.....	1	.....	4	3	13	.....	.....	3	2.87	72.9
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.85	758.3	30.00	761.9	65.1	18.4	77	1	5	13	1	2	.....	5	.....	4	.....	.....	3	1.77	45.0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.96	710.2	29.98	761.4	61.5	16.4	61	11	10	1	1	2	2	1	1	2	.....	.....	4	3.20	81.3
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.91	759 7	29.93	760.3	74 0	23.3	61	1	.....	.....	.....	.....	.....	1	9	20	.....	.....	3	1.51	38.4
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.99	761.8	29.96	760.9	67.1	19.5	74	6	4	1	.....	.....	.....	.....	.....	19	.....	.....	2	0.89	22.6
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.89	759.2	29.96	761.0	66.9	19.4	76	.....	.....	.....	.....	.....	.....	3	5	23	.....	.....	2	0.63	16.0
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.90	759.5	29.94	760.4	68.7	20.4	77	4	8	5	2	.....	.....	1	1	10	.....	.....	1	0	0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.69	754.2	29.99	761.8	62.8	17.1	89	.....	.....	.....	6	.....	1	2	22	.....	.....	.....	4	1.14	29.0
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.55	725.1	30.03	762.8	68.1	20.1	55	6	8	3	2	2	3	3	1	.....	.....	.....	3	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.41	721.6	.....	.....	80.2	26.8	47	1	4	1	.....	1	2	13	9	.....	.....	.....	5	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	475	84	29.66	753.3	29.86	758.6	80.1	26.7	74	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	4.23	107.4
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.70	754.3	30.12	765.0	41.9	5.5	67	1	1	5	1	.....	.....	.....	.....	23	.....	.....	4	0.80	20.2
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.67	753.5	30.21	767.3	37.0	2.8	82	1	2	3	3	2	8	10	2	.....	.....	.....	7	1.23	31.2
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	30.06	763.4	30.17	766.3	38.3	3.5	77	4	4	1	2	.....	1	4	11	4	.....	.....	5	0.86	21.8
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.25	742.9	30.19	766.9	37.2	2.9	81	2	3	12	4	.....	.....	1	9	.....	.....	.....	6	0.26	6.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.93	760.3	30.13	765.3	50.2	10.1	60	12	4	6	3	1	.....	.....	.....	5	.....	.....	4	0.85	21.7
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	30.11	764.8	30.16	766.1	44.1	6.7	76	3	2	1	3	1	6	2	13	.....	.....	.....	7	2.85	72.3
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.88	758.9	30.14	765 5	46.4	8.0	62	6	11	2	1	2	1	1	7	.....	.....	.....	4	1.00	25.5
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	30.05	763.2	30.13	765.4	51.1	10.6	58	4	17	5	.....	3	2	.....	.....	.....	.....	.....	4	1.15	29.3
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.90	759.5	30.08	764.1	51.0	10.9	56	16	4	.....	5	1	3	.....	.....	2	.....	.....	5	0.58	14.6
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.80	756.8	30.06	763.4	52.2	11.2	64	8	5	3	2	6	1	.....	6	.....	.....	.....	5	1.98	50.3
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.19	741.4	30.10	764.5	48.0	8.9	65	2	.....	1	1	.....	6	12	9	.....	.....	.....	6	2.74	69.6
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.84	757.8	30.09	764 2	57.4	14.1	68	3	6	1	1	.....	5	4	5	6	.....	.....	7	3.99	101.4
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	30.04	762.9	30.08	764 0	57.0	13.9	66	4	6	6	2	1	3	6	3	.....	.....	.....	7	1.53	38.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.																											
Sub-Series.	° ′	° ′																									
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	22.13	562.0	.....	... .	19.6	— 6.9	62	.....	.....	1	8	.....	3	9	10	....	.....	.....	3	0.66	16.9
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.14	562.4	.....	.....	24.3	— 4.3	65	6	7	2	6	.....	1	3	6	.....	.....	.....	4	8.66	220.0
JAPANESE.																											
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.99	761.6	30.01	762.2	36.2	2.4	82	3	3	9	2	.....	3	6	1	4	7028*a*	11308*a*	9	7.24	183.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.94	760.5	29.97	761.2	34.3	1.3	78	1	4	11	7	5	.....	1	1	1	7028*a*	11308*a*	8	3.58	90.9
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.94	760.4	29.94	760.5	34.4	1.3	81	10	6	9	1	1	.....	2	.....	2	10666	17165	6	2.41	61.1
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.96	760 9	30.04	762.7	43.3	6.3	74	1	4	20	.....	.....	.....	1	4	1	.....	.....	2	1.70	43.3
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.13	765.3	30.12	765.0	41.7	5.4	85	22	2	3	2	.....	.....	.....	1	1	3574	5754	5	2.04	51.8
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.99	761.8	30.08	764.0	40.7	4.9	85	2	2	3	7	1	9	5	.....	2	5221	8402	8	12.24	310.6
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.17	766.2	30.15	765.8	46.1	7.8	82	16	9	.....	.....	.....	1	5	.....	.....	3631	5843	6	4.18	106.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.94	760.6	30.09	764.3	39.8	4.3	86	13	9	4	1	.....	1	.....	2	1	2281	3671	5	1.83	46.4
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.11	764.8	30.10	764.5	44.7	7.1	78	6	7	8	.....	1	1	3	5	.....	4278	6884	3	3.95	100.4
Minaski	N. 31 56	E.131 26	8.46 p.m.	26	8	30.14	765.5	30.14	765.5	45.0	7.2	84	7	.....	15	.....	.....	.....	4	.....	5	5921	9529	3	4.15	105.3
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.86	758.5	29.96	761.0	35.3	1.8	80	1	.....	22	7	1	.....	.....	.....	.....	2901	4670	4	3.49	88.7
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.97	761.2	30.14	765.5	44.6	7.0	82	12	3	2	1	.....	4	1	6	2	3528	5678	6	4.22	107.1
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.80	757.0	29.85	758.2	32.8	0.5	74	5	1	12	2	3	.....	3	.....	5	6520	10492	4	2.68	67.9
Nilgata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.02	762 4	30.03	762.9	41.3	5.2	78	2	4	6	4	6	6	.....	1	2	7792	12539	8	6.52	165.6
Nunnadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.98	761.5	29.99	761 7	43.5	6.4	78	3	.....	1	5	.....	.....	9	13	.....	.....	.....	3	2.13	54.1
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.07	763.9	30.09	764 3	42.5	5.8	81	4	4	9	.....	1	2	3	3	5	6260	10075	3	1.99	50.3
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.12	765.0	30.11	764.8	42.6	5.9	81	5	2	18	1	1	.....	4	.....	.....	4247	6835	7	7.22	183.5
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.01	762.3	30.13	765.3	45.4	7.4	73	2	3	6	4	1	1	1	2	11	.....	.....	6	4.84	123.0
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.85	758.2	29.92	760.0	29.8	— 1.2	77	3	7	3	....	7	5	.....	.....	6	6195	9971	5	2.76	70.3
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.96	760.9	30.01	762.2	41.1	5.0	78	14	6	4	.....	.....	3	2	2	.....	5097	8202	4	2.22	56.4
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.07	763.8	30.09	764.3	43.9	6.6	78	11	3	2	.....	.....	.....	5	4	6	2715	4370	4	2.37	60.1
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.73	755.1	29.86	758.4	80.0	26.7	71	2	3	5	.....	1	1	14	5	.....	.....	.....	8	5.16	131.1
MEXICAN.																											
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.72	602.5	29.82	757.4	49.6	9.8	49	1	8	1	3	1	.....	1	16	.....	.....	.....	4	0.54	13.6
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.39	619.5	30.17	766.3	46.9	8.3	81	9	15	3	2	2	.....	.....	.....	.....	.....	.....	6	0.65	16.5
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.74	755.7	29.95	760.7	73.1	22.8	74	.....	4	1	.....	.....	5	8	13	.....	.....	.....	2	0	0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.12	587.1	30.22	767.6	45.0	7.2	78	.....	5	2	1	1	.....	.....	1	21	.....	.....	4	0.48	12.1
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.46	595.7	30.18	766.6	53.4	11.9	69	2	6	.....	.....	.....	.....	1	5	17	.....	.....	3	0.59	15.0
San Luis Patosi.	N. 22 09	W.100 55	5.16 a.m.	6201	1890	.....	.....	.....	.....	47.0	8.3	67	1	8	5	3	1	2	9	2	.....	.....	.....	4	.....	.....
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.22	767.5	30.24	768.0	40.1	4.5	.....	3	4	5	8	6	.....	1	4	.....	.....	.....	.....	1.39	35.4
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	30.06	763.5	30.13	765.4	36.5	2.5	.....	4	1	13	9	.....	2	.....	.....	2	.....	.....	.....	0.89	22.7
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.13	765.4	30.15	765.9	39.9	4.4	.....	3	5	6	10	3	2	1	1	.....	.....	.....	.....	1.03	26.2
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.17	766.3	30.19	766.8	39.4	4.1	.....	3	3	7	8	1	1	3	2	3	.....	.....	.....	0.42	10.6
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	30.14	765.5	30.21	767.2	37.9	3 3	.....	2	2	6	9	7	2	3	.....	.....	.....	.....	4	1.19	30.3
Sub-Series.																											
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.75	755.7	79.0	26.1	86	3	1	10	2	1	1	.....	3	10	.....	.....	8	11.93	303.1
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.71	754.5	29.81	757.1	41.4	5.2	88	5	2	1	3	12	5	.....	.....	3	.....	.....	8	18.04	458.1
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.39	746.5	29.48	748.8	33.1	0.6	75	4	3	6	3	5	1	4	1	4	.....	.....	9	6.02	152.8
Christianin	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.56	750 8	29.75	755.7	29.1	— 1.6	80	3	4	1	11	4	.....	1	3	4	.....	.....	8	0.47	11.9
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.24	742.6	29.32	744 7	23.4	— 4.8	.....	3	2	6	4	2	7	2	3	2	.....	.....	8	2.36	60.0
PORTUGUESE.																											
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.04	762.9	30.09	764.3	64.4	18.0	67	3	.....	4	9	5	7	1	1	.....	.....	.....	6	4.68	118.9
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.84	758 0	30.17	766.4	50.7	10.4	86	5	1	...	1	2	1	5	16	.....	.....	.....	7	3.53	89.7
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.03	762.8	30.08	764.1	61.3	16.3	75	6	3	2	5	.....	1	10	3	1	.....	.....	4	0.03	153.2
Saint Vincent *a*	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.98	761 4	29.95	760 6	80.0	27.0	60	17	1	.....	.....	.....	.....	.....	5	7	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.07	712.9	29.82	757.3	80.6	27.0	68	.....	.....	4	1	.....	.....	.....	.....	26	.....	.....	8	.....	.....
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.32	643.1	30.13	765.2	40.5	4.7	70	2	.....	5	4	.....	6	10	3	1	.....	.....	6	14.84	376.8
ROUMANIAN.																											
Bucharest	N. 44 25	E. 27 06	1.53 p.m.	366	112	29.79	756.6	30.21	767.3	31.1	— 0.5	71	.....	1	3	8	13	.....	1	4	1	.....	.....	7	3.12	79.2
RUSSIAN.																											
Akmolinski	N. 51 12	E. 71 23	4.46 p.m.	1004?	306?	28.93	734 7	30.12	765.0	10.4	—12.0	85	1	1	6	15	3	2	3	.....	.....	.....	.....	6	0.53	13.4
Archungel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.43	747.5	29.50	749.3	12.9	—10.6	85	3	6	4	0	3	6	3	.....	.....	.....	.....	9	1.12	28.5
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.21	767.4	30.13	765.3	31.3	— 0.4	81	1	4	5	4	4	4	5	2	2	.....	.....	9	0.63	15.9
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.19	766.9	30.14	765.5	46.4	8.0	75	8	1	.....	9	3	.....	.....	.....	10	.....	.....	5	0	0
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.65	753.2	30.22	767.0	13.6	—10.2	87	.....	.....	.....	23	1	.....	.....	.....	7	.....	.....	6	2.02	51.2
Derpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.48	748.9	29.77	756.1	27.1	— 2.7	88	1	3	7	12	5	.....	.....	3	.....	.....	.....	9	1.75	44.4
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	28.76	730.4	29.82	757.4	12.7	—10.7	82	.....	1	13	9	3	1	1	1	2	.....	.....	9	0.24	6.2
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.60	751.9	30.09	764.3	29.3	— 1.5	86	3	8	9	2	2	4	.....	2	1	.....	.....	9	1.26	32.1
Irkutsk *a*	N. 52 16	E.104 16	6.57 p.m.	1535	468	28.62	726 9	30 40	772.1	6.6	—14.1	92	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	0.34	8.6
Kasallinsk *b*	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.94	760.5	30.12	765 0	23.4	— 4.8	89	1	2	3	5	7	3	3	3	2	.....	.....	8	0.45	11.4
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.56	750.8	29.88	758.9	17.1	— 8.3	86	1	3	5	11	9	2	.....	.....	.....	.....	.....	9	0.45	11.4
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.40	746.7	29.50	749.3	13.1	—10.5	88	1	5	11	5	3	2	1	1	2	.....	.....	9	0.07	1.7
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.03	762 7	30.05	763.3	41.9	5.5	82	3	3	3	5	1	3	4	3	6	.....	.....	7	0.54	13.8
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.36	745 7	30.04	763.0	28.6	— 1.9	89	4	12	6	4	1	1	.....	2	1	.....	.....	8	0.89	22.5
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.35	745.5	29.90	759.4	22.3	— 5.4	93	2	2	6	11	5	1	1	.....	3	.....	.....	7	2.30	58.3
Igov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.40	740 8	30.04	763.0	25.2	— 3.8	88	1	2	10	8	3	1	2	1	3	.....	.....	8	1.75	44.4
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.82	757.5	29.88	758.9	34.3	1.3	83	2	4	10	8	2	2	2	.....	1	.....	.....	8	2.09	53.2
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	29.90	759.5	30.13	765.3	31.3	— 0.4	80	.....	4	9	6	1	4	6	1	.....	.....	.....	8	1.57	39.8
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.29	743.9	29.83	757.7	22.6	— 5.2	86	1	7	9	5	4	2	.....	1	2	.....	.....	8	1.11	28.2
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	30.00	762.1	30.08	764.0	35.1	1.7	81	3	4	3	5	3	.....	1	3	9	.....	.....	7	1.81	45.9
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	59	18	29.79	756.6	29.90	759 4	— 7.8	—22.1	73	.....	1	10	.....	.....	.....	1	.....	16	.....	.....	2	0	0
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.25	743.0	29.77	756.1	16 2	— 8.8	82	2	5	2	8	4	6	.....	.....	.....	.....	.....	9	2.04	51.9
Perm	N. 58 01	E. 56 16	3.45 p.m.	344?	105?	29.31	744.4	29.74	755.4	13.1	—10.5	83	2	2	5	6	7	3	.....	1	5	.....	.....	9	0.97	24.6
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.91	759.6	30.27	768.8	32.9	0.5	75	2	2	.....	2	4	5	5	7	4	.....	.....	7	1.00	25.5
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.35	745.5	29.60	751.8	18.3	— 7.6	82	1	5	18	10	1	1	.....	1	4	.....	.....	7	2.20	55.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.51	749.6	30.06	763.5	27.9	— 2.3	83	4	3	12	5	3	.....	.....	1	3	.....	.....	8	0.89	22.7
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.06	763.6	30.10	764.5	53.1	11.7	69	1	4	1	3	.....	.....	16	.....	6	.....	.....	4	2.73	69.4
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.64	752.8	29.70	754 4	24.3	— 4.3	84	1	4	9	5	7	1	3	1	.....	.....	.....	7	0.66	16.8
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.69	703 4	30.25	768.3	37.0	2.8	76	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	4	2.16	54.9
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.85	758.1	30.06	763.5	45.3	7.4	74	3	1	6	5	4	1	1	8	2	.....	.....	8	1.95	49.6
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.34	745.2	29.95	760.7	26.8	— 2.9	82	2	3	10	6	3	3	1	3	.....	.....	.....	8	1.47	37.3
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.54	724.8	30.28	769.1	36.5	2.5	79	.....	3	3	1	2	.....	1	4	17	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.72	729 5	30.16	766.1	46.0	7.8	56	9	.9	.....	2	1	5	1	1	3	.....	.....	4	0.33	8.3
Yeniseisk	N. 58 27	E. 92 06	6 08 p.m.	262?	80?	29.74	755.3	30.08	764.0	11.3	—11.5	84	.....	1	2	4	4	5	8	.....	7	.....	.....	9	1.35	34.4
Sub-Series.																											
Petrowsky Ac'y	N. 55 50	E. 37 33	2.30 p.m.	509	155	29.17	740.9	29.76	755.9	21.9	— 5.6	82	1	3	11	5	6	2	1	1	1	.....	.....	8	1.20	30.5
SPANISH.																											
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	30.04	763.0	30.20	767.0	52.5	11.4	68	7	1	3	3	9	2	1	5	.....	.....	.....	4	0.58	14.6
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.17	766.4	30.23	767.9	49.6	9.8	71	2	1	.....	2	6	8	..	.....	12	1620	2607	5	1.80	45.6
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.22	691.4	30.28	769.2	42.3	5.7	74	3	2	4	5	3	2	2	10	.....	4832	7477	4	0.75	19.1
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27 96	710.2	30.24	768.1	45.7	7.6	80	.....	.....	.....	3	1	1	2	5	19	4685	7539	6	0.93	23.7
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.24	742.7	30.17	766.4	52.9	11 6	76	8	.....	.....	3	3	2	2	8	5	6212	9997	6	5.56	141.2
Sub-Series.																											
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	30.04	763 1	30.06	763 5	65.6	18.7	80	12	2	.....	.....	4	5	7	1	.....	.....	.....	6	2.44	61.9
Manilla	N. 14 35	E.120 57	8.04 p.m.	52	16	29.95	760.7	29.94	760.5	76.8	24.9	80	4	.....	.....	1	1	8	11	6	.....	4120	7631	2	0.13	3.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.10	764.5	30.18	766.6	58.9	14.9	74	1	1	2	.....	6	4	11	.....	6	.....	.....	6	5.53	140.5
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.95	760 8	29.98	761.6	76.1	24.5	85	1	2	.....	1	7	9	5	6	.....	.....	.....	5	5.49	139.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1885.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
SWEDISH.	° ′	° ′																							0-10		
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.39	746 4	29.48	748 7	12.2	—11.0	93	4	4	6	2	2	1	.. .	4	8	.....	.....		6	2.65	67.4
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.45	747.9	29.54	750.2	19.2	— 7.1	91	5	5	.. ...	6	.....	.....	.....	5	10	.....	.....		7	1.96	49.7
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.50	749.3	29.60	751.7	27.0	— 2.8	82	3	4	3	4	1	.....	.....	1	15	.....	.....		4	0.76	19.2
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.52	749.9	29.74	755.3	30.4	— 0.9	84	2	2	9	9	3	.....	.....	... .	6	.....	.....		6	1.31	33.3
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.70	754.4	29.79	756.7	35.1	1.7	86	4	3	11	10	.....	1	1	1	.....	.....	.....		7	1.30	33.1
Sub-Series.																												
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.58	751.2	29.70	754.4	28.6	— 1.9	88	1	6	3	14	6	1	.....	.....	.....	.....	.....		6	1.34	34 0
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.08	764.0	47.7	8 7	74	10	7	.....	8	2	.....	.....	4	.....	.....	.....		7	4.59	116.5
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.10	764.5	53.8	12.1	.....	1	5	3	2	1	4	4	11	...	.....	.....		5	3.70	94.
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	30.00	761.9	65.3	18.5	68	4	1	13	4	2	.....	.....	.....	7	.....	.....		7	6.91	175.6
UNITED STATES.																												
New Eng'd states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.82	757.4	29.89	759.2	26.1	— 3.3	79	5	8	2	5	5	1	2	3	.....	10005	16101		7	5.90	149.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.82	757 4	29.93	760 2	24.7	— 4.1	80	6	3	9	5	1	1	.....	1	5	6555	10549		6	2.94	74.7
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.37	593.6	30.00	762.0	9.6	—12.4	95	1	17	5	4	.....	1	1	2	.....	30010	48295		3	4.83	122.7
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.83	757.7	29.97	761.2	30.3	— 0.9	70	7	4	14	4	2	.....	.....	.. ...	.....	10856	17471		6	2.09	53.1
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.95	760.7	29.97	761.2	35.5	1.9	81	5	10	5	5	.....	1	1	4	.....	15601	25108		6	4.68	118.9
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.97	761.2	30.01	762.2	32.3	0.2	76	5	10	6	4	.....	.....	.....	4	2	6573	10578		5	3.92	99.6
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.89	759 2	30.00	762.0	30.7	— 0.7	76	7	4	7	8	1	.....	.....	3	.....	7380	11877		6	3.31	84.1
Mid. Atlan. states.																												
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.94	760.5	30.03	762.7	27.6	— 2.4	79	8	5	3	5	7	1	.....	2	.....	6559	10559		7	1.51	38.4
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.85	758.2	30.02	762.5	33.5	0.8	72	4	9	5	5	2	.....	.....	6	.....	9794	15762		5	2.69	68.3
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.93	760.2	30.05	763.3	33.2	0.7	74	5	6	5	7	1	1	2	3	1	9129	14691		5	2.87	72.9
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.02	762.5	30.04	763.0	34.7	1.5	80	3	10	5	5	1	.....	.....	7	.....	16063	25850		5	4.33	110.0
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.04	763.0	30.04	763.0	34.7	1.5	84	5	3	11	6	1	3	1	1	.....	7766	12498		6	4.29	109.0
Barnegat City	N. 39 46	W. 74 06	7.04 a.m.	22	7	30.02	762.5	30.02	762.5	35.2	1.8	81	6	7	9	4	.....	1	2	2	.....	13188	21224		6	0.61	15.5
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.03	762.7	30.07	763.8	33.9	1.1	67	4	6	10	3	.....	.....	1	5	2	5047	8122		6	2.49	63.2
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.98	761 5	30.08	764.0	33.1	0.6	78	7	6	3	5	4	1	... .	2	3	5244	8439		5	2.67	67.8
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.07	763.8	30.06	763.5	38.1	3.4	79	3	9	6	5	4	.....	.....	2	2	3833	6168		4	4.16	105.7
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.07	763 8	30.07	763.8	41.0	5.0	77	7	4	1	14	3	.....	1	1	.....	12078	19425		4	3.49	88.6
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.40	746.7	30.11	764.8	34.1	1.2	75	2	7	7	6	5	.....	.....	4	.....	3524	5671		5	3.16	80.3
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.03	762.7	30.04	763.0	39.2	4.0	79	9	2	4	9	2	1	2	1	1	6065	9760		4	3.94	100.1
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.09	764 3	30.08	764.0	42.9	6.1	78	4	3	7	7	3	1	.....	5	1	12851	20681		5	6.59	167.4
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.09	764.3	30.08	764.0	45.5	7.5	84	11	2	8	6	1	1	.....	2	. ...	10979	17669		2	6.23	158.2
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.11	764.8	30.09	764.3	44.0	6.7	88	5	8	3	5	3	1	.....	5	1	12580	22045		5	5.98	151.9
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.08	764.0	30.09	764 3	42.8	6.0	76	6	11	8	1	1	1	.....	3	.....	7085	11402		5	3.51	89.2
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.08	764.0	30.11	764.8	44.7	7.1	73	5	3	8	8	2	1	.....	3	1	5279	8496		7	3.83	97.3
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.28	743.7	30.14	765.5	36.3	2.4	76	2	8	2	12	2	.....	.....	5	.....	4572	7358		5	4.71	119.6
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.10	764.5	30.12	765.0	45.7	7.6	78	3	5	14	2	1	3	.....	3	.....	5480	8819		4	6.30	160.0
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.00	762.0	30.16	766.1	37.0	2.8	85	1	4	8	4	.....	1	.....	5	8	3101	5007		4	2.14	54.4
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.10	764.5	30.16	766.1	45.0	7.2	79	5	5	10	3	4	.....	.....	3	1	5905	9503		3	5.50	139.7
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.15	765.8	30.16	766.1	47.5	8.6	83	1	11	3	3	3	.....	.....	7	3	4683	7536		4	7.76	197.1
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.15	765.8	30.13	765.3	48.6	9.2	89	7	8	.....	1	2	2	1	4	6	6264	10081		3	3.84	97.5
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.13	765.3	30.10	764.5	63.3	17.4	84	6	3	.....	1	4	2	1	14	.....	10938	17603		6	1.72	43.7
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.16	766.1	30.15	765.8	50.1	10.1	83	7	10	4	1	3	1	.....	4	2	4739	7627		5	1.85	47.0
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.99	736.3	30.19	766.8	36.7	2.6	74	.....	7	15	4	1	1	3	.....	.....	8204	13203		4	2.64	67.0
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.19	766.8	30.18	766.6	44.4	6.9	73	10	7	1	2	1	2	2	3	3	5432	8742		4	4.72	119.9
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.19	766.8	30.19	766.8	42.8	6.0	82	7	11	3	3	.....	1	3	2	1	6090	9801		5	5.00	127.0
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.98	761.5	30.19	766.8	39.3	4.1	79	2	8	3	3	1	2	3	1	8	4132	6650		5	3.13	79.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	30.00	762.0	30.20	767.1	41.3	5.2	75	3	5	.....	2	2	6	7	1	5	4251	6841		4	2.86	72.6
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.16	766.1	30.18	766.6	48.3	9.1	85	9	1	2	4	.....	3	6	5	1	5813	9355		4	4.38	111.2
West Gulf states.																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.96	761.0	30.18	766.6	41.8	5.4	77	2	5	3	3	10	6	1	1	.....	.....	.....	4	4.11	104.4
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.66	753 4	30.16	766.1	34.4	1.3	79	2	3	3	2	1	.....	18	1	1	4413	7102		6	1.26	32.0
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.86	758.4	30.15	765.8	37.2	2.9	77	1	6	6	6	1	3	4	4	.....	4176	6720		3	3.74	95.0
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.18	766.6	30.18	766 6	54.5	12.5	83	5	3	1	2	5	7	5	3	.....	8517	13607		3	2.10	53.3
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.15	765.8	30.14	765.5	54.9	12.7	86	5	1	2	2	4	6	4	5	2	9734	15665		2	1.37	34.8
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.64	752.8	30.18	766.6	44.5	6.9	79	2	5	3	6	4	4	6	1	.....	7367	11856		4	3 14	79.8
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.34	745.2	30.14	765.5	47.6	8.7	84	10	4	1	2	2	5	4	3	.....	6173	9934		4	1.78	45.2
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	30.12	765.0	30.12	765.0	56.1	13.4	87	10	.....	.....	.....	.....	7	3	3	2	6	5827	9378		3	1.20	30.5
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.98	761.5	30.14	765 5	53.5	11.9	78	10	1	.....	.....	.....	7	3	.....	10	4262	6859		4	0.39	9.9
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.36	745.7	30.20	767.1	35.0	1.7	82	5	1	4	8	4	2	2	2	.....	5004	8051		5	3.41	86.6
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.13	739.9	30.19	766.8	33.6	0.9	84	5	1	8	5	1	4	1	4	2	4986	8024		7	4.45	113.0
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.85	758.2	30.18	766.6	36.9	2.7	74	1	3	7	3	2	5	.....	6	4	4545	7314		5	2.92	74.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.57	751 1	30.16	766.1	35.7	2.1	80	1	5	6	4	4	7	1	3	.....	5035	9068		6	2.90	73.7
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.54	750.3	30.13	765.3	37.8	3.2	77	4	.....	4	6	7	4	3	2	1	7100	11426		5	2.84	72.1
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.12	739 6	30.11	764.8	29.4	— 1.4	82	4	5	6	6	3	6	1	.....	.....	7235	11643		6	3.88	98.6
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.25	742.9	30.10	764.5	29.2	— 1.6	84	2	5	5	5	7	1	3	2	1	5205	8376		7	2.45	62.2
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.44	747 8	30.12	765.0	31.4	— 0.3	79	2	6	4	6	1	5	1	4	2	7243	11656		6	1.82	46.2
Columbus	N. 39 58	W. 83 00	6.28 a.m.	805	245	29.21	741.9	30.12	765.0	30.0	— 1.1	82	5	7	5	8	2	2	2	.....	.....	6572	10576		7	1.85	47.0
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.22	742.2	30.08	764.0	32.6	0.3	77	2	4	6	5	8	3	1	2	.....	6013	9677		7	1.64	41.7
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.30	744.2	30.01	762.2	27.6	— 2.4	85	.....	4	8	9	4	3	2	1	.....	9436	15186		9	2.25	57.1
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.23	742.4	30.01	762.2	28.7	— 1.8	88	....	1	13	5	6	1	3	2	.....	11215	18048		8	4.51	114.6
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.62	752.3	29.99	761.7	27.1	— 2.7	80	3	6	4	3	7	5	2	1	.....	10750	17300		9	3.87	98.3
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.36	745.7	30.08	764.0	29.0	— 1.7	79	.....	5	4	9	8	3	2	.....	.....	11349	18264		7	1.77	45.0
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.27	743.4	30.04	763.0	29.8	— 1.2	80	3	2	4	16	3	2	.....	1	.....	10640	17123		9	3.19	81.0
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.28	743 7	30.06	763.5	29.1	— 1.6	87	1	2	7	6	9	2	2	2	.....	9715	15638		9	1.68	42.7
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.34	745.2	30.07	763.8	27.3	— 2.6	82	2	4	9	5	4	1	.....	2	4	6382	10271		7	2.89	73.4
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.30	744.2	30.05	763.3	30.9	— 0.6	84	2	3	9	8	5	.....	2	2	.....	8763	14102		8	2.30	58.4
Upper lake region.																												
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.28	743.7	29.99	761.7	22.8	— 5.1	88	3	4	7	9	3	3	.....	1	1	7589	12213		8	3.12	79.2
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.31	744 5	30.03	762 7	20.1	— 6.6	84	6	7	3	10	.....	.....	.....	5	.....	7058	11359		8	3.37	85.6
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.33	745 0	30.03	762.7	28.3	— 2.1	85	3	4	5	2	4	3	5	4	1	10313	16597		8	3 39	86.1
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.26	743.2	29.96	761.0	26.4	— 3.1	77	4	11	4	3	5	1	1	2	.....	9221	14840		9	1.73	43.9
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	a29.23	a742.4	a30.02	a762.5	a21.9	a— 5.6	a87	1	7	13	6	2	1	.....	1	.....	a7945	a12780		a8	1.87	47.5
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.30	744.2	30.02	762.5	25.6	— 3.6	86	.....	4	4	9	7	3	1	2	1	8058	12968		8	2.53	64.3
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.31	744.5	30.06	763.5	29.2	— 1.6	82	3	5	3	11	4	1	3	1	.....	6700	10782		5	3.35	85.1
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.25	742.9	30.05	763.3	24.6	— 4.1	87	1	6	8	6	3	2	.....	3	2	9051	14508		5	2.71	68.8
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.28	743.7	30.08	764.0	15.3	— 9.3	82	2	7	6	10	4	1	.....	1	.....	5327	8573		6	0.54	13.7
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.12	739.6	30.09	764.3	17.8	— 7.9	84	2	2	6	3	4	4	3	1	6	3503	5638		5	0.64	16.3
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.25	742.9	30.07	763.8	22.5	— 5.3	78	7	4	4	3	11	.....	.....	1	1	6313	10151		6	1.97	50.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.41	747.0	30.11	764.8	21.8	— 5.7	86	4	4	8	9	1	2	2	1	.....	5154	8294		5	1.95	49.5
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.17	740.9	30.11	764.8	24.5	— 4.2	84	7	5	3	4	5	.....	4	1	2	3705	5964		6	1.96	49.8
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.34	745.2	30.09	764.3	21.3	— 5.9	83	3	6	3	1	4	1	1	.....	12	3169	5100		5	3.14	79.8
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.42	747.3	30.12	765.0	24.2	— 4.3	84	2	9	5	4	5	2	3	1	.....	6448	10377		4	1.96	49.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for December, 1885.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. STATES—Con.																											
U. Miss. val.—Con.	° ′	° ′																									
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.77	756.1	30.15	765.8	34.1	1.2	76	3	5	5	5	9	1	1	1	1	6674	10740	6	3.01	76.5
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.42	747.3	30.12	765.0	32.8	0.4	75	4	8	5	3	6	1	3	.....	1	7335	11804	6	2.52	64.0
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.50	749.3	30.13	765.3	34.6	1.4	78	3	6	7	3	7	1	3	1	.....	9955	16021	4	2.03	51.6
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.22	742 2	30.17	766.3	27.4	—2.6	81	2	10	.....	1	7	3	1	...	7	4383	7054	4	0.97	24.6
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.92	734.6	30.18	766.6	24.0	—4.4	86	3	9	1	1	6	0	1	1	3	6030	9704	5	1.17	29.7
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.32	719.3	.....	.....	18.6	—7.4	86	7	11	.....	.....	1	7	1	1	3	6582	10592	6	0.14	3.6
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.62	726.9	30.16	766.1	18.6	—7.4	70	1	7	1	.....	4	8	3	.....	7	5884	9169	4	0.10	2.5
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28 74	730.0	30.17	766.3	21.4	—5.9	88	4	6	6	2	2	2	1	2	6	5477	8814	3	0.07	1.8
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.03	737.3	30.16	766.1	31.3	—0.4	82	3	5	3	4	6	4	5	1	.....	8290	13341	4	0.91	23.1
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2604	793	27.30	693.4	30.18	766.6	20.1	—6.6	77	2	8	5	13	2	.....	1	.....	.....	8999	14482	6	0.15	3.8
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.00	736.6	30.12	765.0	12.3	—10.9	93	5	4	4	3	9	4	1	1	.....	8720	14033	6	0.32	8.1
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.13	739.9	30.13	765.3	7.5	—13.6	91	3	7	3	1	7	5	.....	.....	5	2188	3521	5	0.54	13.7
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.16	715.3	30.18	766.6	18.7	—7.4	74	9	8	2	2	2	2	2	2	2	4766	7670	5	0.34	8.6
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.92	709.2	30.20	767.1	19.9	—6.7	92	.....	10	6	2	9	.....	3	1	.....	5956	9585	6	0.14	3.6
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.36	720 3	30.16	766 1	9.3	—12.6	83	2	8	4.	3	7	3	2	.....	2	9070	14596	6	0.47	11.9
Northern slope.																											
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.11	688.6	30.16	766.1	29.9	—1.2	63	.....	2	10	16	.....	1	2	.....	.....	10134	16309	5	0.41	10.4
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.18	690.4	30.18	766.6	29.9	—1.2	77	.....	2	8	5	.....	.....	.....	1	15	3011	4846	8	0.38	9.7
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.83	681.5	30.23	767.8	28.8	—1.8	79	5	2	2	6	1	9	6	... ..	.....	5141	8273	6	0.09	2.3
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.48	647.2	30.11	764.8	29.5	—1.4	64	12	8	9	.....	.....	.....	1	1	.....	11074	17822	7	0.94	23.9
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.32	668.5	30.16	766.1	31.6	—0.2	.....	.....	3	16	9	2	.....	1	.....	.....	10170	16376	4	0.17	4.3
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25 84	656.3	30.17	766.3	28.8	—1.8	73	1	4	2	14	3	2	3	2	.....	4524	7280	5	0.21	5.3
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2030	619	27.84	707 1	30.21	767.3	11.9	—11.2	77	4	5	12	1	.....	2	.....	1	6	4024	6476	8	0.41	10.4
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.33	643 4	30.32	770.1	30.6	—0.8	72	2	.....	4	11	.....	.....	.....	4	10	1661	2673	3	1.18	30.0
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.96	608.6	30.25	768.3	29.8	—1.2	70	5	15	9	1	1	.....	.....	.....	.....	10495	16890	3	0.16	4.1
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.10	688 3	30.24	768.1	26.9	—2.8	84	1	7	11	3	2	3	.....	1	3	3682	5926	3	0.95	24.1
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.64	448.0	30.29	769.4	7.5	—13.6	82	4	11	5	3	.....	.....	1	7	.....	19905	32033	3	4.03	102.4
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.60	726.4	30.14	765.5	27.6	—2.4	88	5	6	4	3	5	1	2	2	3	6318	10168	4	0.43	10.9
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.74	628.4	30.26	768.6	29.0	—1.7	66	2	2	.....	7	20	.....	.....	.....	.....	6048	9733	2	1.08	27.4
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.06	661.9	30.19	766.8	24.3	—4.3	90	4	5	13	6	.....	.....	1	.....	2	4630	7451	3	0.91	23.1
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.45	697.2	30.21	767.3	31.0	—0.6	82	5	6	7	.....	5	3	.....	1	4	7240	11651	4	1.76	44.7
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.28	692.9	30.22	767.6	33.6	0.9	84	3	12	3	4	5	2	.....	1	1	8307	13367	4	2.11	53.6
Southern slope.																											
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.88	733.5	30.18	766 6	35.2	1.8	92	8	3	.....	.....	3	5	2	3	7	7870	12665	4	1.58	40.1
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.32	719 3	30.22	767.6	42.2	5.7	81	1	5	.....	11	3	5	.....	.....	0	7833	12606	4	0.98	24.9
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.23	640.8	30.13	765.3	40.4	4.7	58	2.	.....	6	15	1	.....	.....	1	6	5883	9468	2	0.24	6.1
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	23.99	609.3	.....	.....	28.1	—2.2	76	.....	8	10	3	5	1	.....	.....	4	5276	8491	2	0.35	8.9
Southern plateau.																											
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622?	1104?	26.42	671.1	.....	.....	41.0	5.0	66	6	1	...	.....	2	.....	5	9	8	2600	4184	1	0.36	9.1
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.28	591.3	30.19	766.8	27.0	—2.8	72	9	1	.....	2	1	2	3	11	2	5041	8112	3	2.27	57.7
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.39	695.7	30.18	766.6	29.2	—1.6	88	1	2	2	.....	6	5	9	6	.....	2032	3270	3	0.71	18.0
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.12	638.0	30.18	766.6	28.7	—1.8	82	3	.....	.....	.....	.....	8	7	13	.....	3313	5332	3	1.41	35.8
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.30	642.6	30.15	765.8	39.6	4.2	56	8	10	3	.....	.....	8	1	1	.....	5727	9217	2	0.81	20.6
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.79	629.7	30.19	766.8	30.1	—1.1	82	1	.....	2	5	1	1	.....	1	20	2763	4446	2	0.32	8.1
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.93	760.2	30.05	763.3	50.9	10.5	68	13	2	.....	.....	.....	1	.....	3	8	4071	6552	2	0.01	0.3
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.36	669 5	30.19	766.8	35.7	2.1	63	2	13	2	.....	.....	1	5	.....	8	2733	4398	3	0.37	9.4
Middle plateau.																											
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.51	597.1	.....	.....	22.5	—5.3	80	1	3	3	15	3	1	...	.....	2	6047	9732	3	0.41	10.4
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.74	653.8	30.27	768.8	31.5	—0.3	78	3	0	.....	1	1	11	3	5	1	2808	4519	5	0.92	23.4
Frisco	N. 38 25	W. 113 16	4.27 a.m.	6400	1950	23.76	603.5	.....	.....	30.6	—0.8	77	5	1	3	20	.....	.....	.....	2	.....	6046	9730	4	0.15	3.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.73	653.5	30.29	769.4	32.2	0.1	78	.....	3	.....	11	1	.....	4	11	1	6155	9905	4	1.00	25.4
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5825	1775	24.39	619.5	30.41	772.4	18.7	—7.4	81	1	4	2	1	4	13	5	.....	1	3548	5710	5	0.71	18.0
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.49	647.4	.....	.....	31.2	—0.4	87	.....	3	16	.....	6	...	.....	1	5	3363	5412	5	3.74	95.0
Northern plateau.																											
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.31	693 7	30.29	769.4	31.8	—0.1	92	2	7	1	.....	1	7	5	.....	8	2755	4434	6	1.07	27.2
Lewiston	N. 46 28	W. 117 05	4.12 a.m.	785	239	29.32	744 7	30.16	766.1	37.2	2.9	85	.....	.....	.....	5	.....	6	.....	12	8	2624	4223	9	2.21	56.1
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.00	711.2	30.14	765.5	32.1	0.1	87	10	.....	3	4	4	.....	2	5	3	2686	4323	7	1.81	46.0
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	29.02	737.1	.....	.....	38.0	3.3	84	1	1	2	17	1	4	.....	.....	.....	3673	5911	7	1.92	48.8
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.81	757.2	30.01	762.2	45.5	7.5	96	.....	5	.....	7	7	11	.....	1	.....	9677	15573	8	10.56	268.2
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.01	762.2	30.06	763.5	40.6	4.8	93	.....	.....	.....	6	18	3	.....	1	3	2367	3809	7	5.72	145.3
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.00	762.0	30.02	762.5	38.0	3.3	97	.....	.....	3	.....	28	.....	.....	.....	.....	2146	3454	7	3.07	78.0
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.89	759.2	30.00	762.0	45.8	7.7	81	. ....	3	3	7	2	6	10	.....	.....	11282	18156	8	10.14	257.6
Portland	N. 45 32	W. 122 43	3.49 a.m.	80	24	29.99	761.7	30.08	764.0	41.2	5.1	94	2	1	1	.....	9	7	3	3	5	2939	4730	5	7.17	182.1
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.53	750.0	30.10	764.5	42.6	5.9	96	1	2	.....	1	1	2	1	2	19	715	1151	6	6.52	165.6
Mid. Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.39	746.5	30.07	763.8	48.0	8.9	89	9	4	.....	.....	4	12	.....	1	1	17470	28115	6	2.71	68.8
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.81	757.2	30.16	766.1	46.4	8.0	92	9	3	... ..	.....	10	1	3	1	4	4256	6849	5	3.86	98.0
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.09	764.3	30.14	765.5	47.1	8.4	94	1	7	.....	3	3	14	.....	2	1	4458	7174	6	5.76	146.3
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.08	764.0	30.13	765.3	51.2	10.7	85	6	7	.....	3	.....	8	1	6	.....	5067	8154	4	4.99	126.7
S. Pac. coast reg'n.																											
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.80	756.9	30.08	764.0	48.1	8.9	84	14	1	3	3	3	1	.....	1	5	5204	8375	3	3.68	93.5
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.72	754.9	30.06	763.5	52.3	11.3	75	2	1	1	.....	.....	1	4	22	.....	4918	7915	2	1.65	41.9
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	30.00	762 0	30.04	763.0	51.5	10.8	80	9	1	1	.....	.....	.....	8	12	.....	2932	4718	3	0.71	18.0
Alaska stations.																											
Fort Alexander	N. 58 57	W. 158 18	1.27 a.m.	.....	.....	29.72	754.9	29.80	756.9	11.3	—11.5	82	1	1	.....	.....	5	.....	15	9	.....	.....	.....	8	1.46	37.1
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.71	754.6	29.79	756.7	1.8	—16.8	87	2	.....	2	6	6	1	9	3	2	8484	13653	6	0.75	19.0
Sitka	N. 57 03	W. 135 19	2.59 a.m.	63	19	29.61	752.1	29.71	754.6	36.0	2.2	80	.....	1	.....	4	.....	8	16	.....	2	8945	14395	8	11.70	297.2
Unalashka	N 53 53	W. 166 32.	0.54 a.m.	13	4	29.59	751.6	29.63	752.6	33.8	1.0	75	1	3	3	10	8	5	1	.....	.....	9169	14756	7	8.68	205.2
Sub-Series.																											
Behring Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.62	752 3	29.67	753.6	26.9	—2.8	87	3	3	3	5	4	.....	3	9	1	9569	15390	8	1.61	40.9
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.99	761.7	29.94	760.5	71.9	22.2	91	14	13	2	1	.....	.....	1	.....	.....	.....	.....	6	3.15	80.0
Cay Sal Light H.	N. 23 56	W. 80 28	6.38 a.m.	?	?	.....	.....	30.06	763.5	70.6	21.4	83	7	0	...	1	.....	3	8	6	.....	.....	.....	6	0.11	2.8
Kingstone	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.95	760.7	73.1	22.8	85	16	...	.....	.....	.....	.....	1	.....	14	2271	3655	5	11.23	285.2
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	78.8	26.0	83	.....	.....	.....	.....	.....	1	13	16	1	.....	.....	5	10.70	271.8
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.2	23.4	77	.....	1	1	.....	.....	1	6	22	.....	.....	.....	3	0.99	25.1
Pointe à Pitre	N. 16 44	W. 61 31	7.54 a.m.	20	6	29.96	761.0	29.90	759.4	79.4	26.3	82	1	.....	.....	1	2	.....	.....	27	.....	.....	.....	3	5.26	133.6
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	62.0	16.7	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	.....	1.13	28.7
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m.	16	5	.....	.....	.....	.....	71.8	22.1	88	8	5	8	5	2	.....	.....	2	1	.....	.....	4	.....	.....

OCEAN SQUARE DATA FOR DECEMBER, 1885.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.89	759.2	81.8	27.7	7						2	22			4.3
12.5 27.5	29.93	760.2	81.6	27.6	6						8	16	1		4.0
12.5 32.5	29.96	761.0	81.0	27.2	2					2	18	3		6	4.5
12.5 37.5	29.96	761.0	80.4	26.9	2						17	6		6	4.6
12.5 42.5	29.97	761.2	80.4	26.9	1						20	6		4	4.5
12.5 47.5	29.97	761.2	80.5	26.9	1						26	3		1	4.8
12.5 52.5	29.95	760.7	81.4	27.4	2					3	22	4			4.4
17.5 22.5	29.95	760.7	79.3	26.3	5						9	13	4		3.6
17.5 27.5	29.97	761.2	78.9	26.1	4	2					9	12	4		3.6
17.5 32.5	29.96	761.0	78.4	25.8	4	1			1		12	7		6	4.5
17.5 37.5	30.01	762.2	77.7	25.4	1	1		1			16	6		6	5.0
17.5 42.5	30.01	762.2	77.9	25.5	1	1	1				18	6		4	5.1
17.5 47.5	30.02	762.5	78.4	25.8	1	1					23	2		4	4.9
17.5 52.5	30.01	762.2	79.4	26.3						7	17	6		1	4.9
17.5 57.5	29.97	761.2	80.2	26.8					3	2	19	7			4.2
22.5 22.5	30.01	762.2	74.9	23.8	1	4	1	1		8	4	11	1		4.3
22.5 27.5	29.98	761.5	75.3	24.1	2	3	2	1	2	3	12	6			4.6
22.5 32.5	30.04	763.0	75.3	24.1	4	1	1	2	1	1	10	7		4	4.4
22.5 37.5	30.06	763.5	76.7	24.8	6		1	1		1	12	7		3	4.8
22.5 42.5	30.08	764.0	75.3	24.1	2		1			3	10	11		4	4.7
22.5 47.5	30.08	764.0	75.6	24.2	5				1	4	9	9		3	4.6
22.5 52.5	30.08	764.0	76.0	24.4	2				3	8	9	7		2	4.7
22.5 57.5	30.04	763.0	76.3	24.6	2		1		4	6	10	7	1		4.4
22.5 62.5	30.03	762.7	76.3	24.6			2	1	6	4	12	6			4.6
22.5 67.5	30.02	762.5	76.2	24.6	3	1	1	1	4	4	14	3			4.4
22.5 72.5	30.02	762.5	74.9	23.8	4	4	1	1	2	5	10	3	1		4.2
27.5 22.5	30.07	763.8	70.1	21.2	5	2	2	3	2	6	4	7			4.5
27.5 27.5	30.06	763.5	70.9	21.6	5	4	3		2	3	10	2	1	1	4.0
27.5 32.5	30.06	763.5	71.5	21.9	8	2	1		2	4	9	5			4.5
27.5 37.5	30.10	764.5	71.9	22.2	6	2			2	5	6	9		1	4.8
27.5 42.5	30.15	765.8	72.4	22.4	5				2	5	4	11		4	4.4
27.5 47.5	30.13	765.3	72.6	22.6	2		1	1	3	4	5	12		3	4.7
27.5 52.5	30.12	765.0	72.6	22.6	3	1		4	6	3	2	9		3	4.6
27.5 57.5	30.10	764.5	72.3	22.4	2	2	1	5	6	2	5	7		1	4.8
27.5 62.5	30.08	764.0	71.5	21.9	4	4	1	6	3	3	9	1			4.7
27.5 67.5	30.08	764.0	71.4	21.9	5	2	3	3	3	4	6	5			4.1
27.5 72.5	30.07	763.8	70.4	21.3	5	7		2	3	6	4	3	1		4.6
27.5 77.5	30.10	764.5	65.4	18.6	10	3	1	1	3	3	7	3			4.4
32.5 12.5	30.11	764.8	63.5	17.5	3		4	3	2	5	7	6	1		3.9
32.5 17.5	30.09	764.3	64.5	18.1	4	3	4	1	4	7	3	4	1		3.8
32.5 22.5	30.07	763.8	65.7	18.7	4	5		4	1	7	6	4			4.5
32.5 27.5	30.09	764.3	66.5	19.2	5	6	1		5	5	5	1		3	4.5
32.5 32.5	30.10	764.5	67.1	19.5	7	5			5	5	5	4			4.8
32.5 37.5	30.13	765.3	67.6	19.8	6	4		2	6	2	4	7			4.9
32.5 42.5	30.18	766.6	67.7	19 8	7	1		3	4	3	4	6		3	5.2
32.5 47.5	30.15	765.8	68.2	20.1	5	3	3	5	4	2	4	5			5.2
32.5 52.5	30.12	765.0	67.8	19.9	5	4	2	7	5	2		6			5.1
32.5 57.5	30.07	763.8	66.9	19.4	5	3	5	9	1	4	1	2		1	5.2
32.5 62.5	30.05	763.3	65.1	18.4	3	7	6	4	6		2	2	1		4.9
32.5 67.5	30.05	763.3	64.8	18.2	3	9	5	2	6	2	1	3			5.3
32.5 72.5	30.06	763.5	62.3	16.8	6	11	2	3	6	1	1	1			4.7
32.5 77.5	30.10	764.5	51.6	10.9	7	11		5	2	2	1	3			5.2
37.5 12.5	30.15	765.8	57.6	14.2	2	2	1	3	8	8	3	4			4.2
37.5 17.5	30.12	765.0	60.2	15.7	4	2	2	2	7	4	5	5			4.7
37.5 22.5	30.10	764.5	61.3	16 3	2	2	1	4	3	7	4	7		1	4.3
37.5 27.5	30.08	764.0	61.8	16.6	2	6	2	1	1	5	7	6	1		3.9
37.5 32.5	30.12	765.0	61.4	16.3	3	6	2	4	5	2	4	5			5.1
37.5 37.5	30.14	765.5	62.7	17.1	7	3	1	5	4	4	3	3		1	5.4
37.5 42.5	30.14	765.5	62.3	16.8	6	2	1	7	3	4	2	3	1	2	5.1
37.5 47.5	30.11	764.8	61.7	16.5	5	4	2	9	6	1	3	1			5.3
37.5 52.5	30.07	763.8	61.3	16.3	5	4	2	9	6	2	1	2			5.3
37.5 57.5	30.02	762.5	59.6	15.3	3	7	3	10	5	1		2			5.7
37.5 62.5	29.98	761.5	56.7	13.7	2	6	8	6	4	1	1	3			6.3
37.5 67.5	29.98	761.5	54.5	12.5	3	9	4	4	3	3	2	2		1	6.1
37.5 72.5	30.02	762.5	79.5	26.4	2	13	1	5	1	3		4	2		5.6
42.5 12.5	30.16	766.1	55.5	13.1	1	1	2	5	4	5	4	8		1	4.8
42.5 17.5	30.15	765.8	56.9	13.8	1	3	4	2	6	4	5	6			5.3
42.5 22.5	30.13	765.3	57.7	14.3	1	1	6	2	4	5	4	8			4.9
42.5 27.5	30.09	764.3	58.0	14.4	2	5	2	5	3	4	7	3			5.2
42.5 32.5	30.10	764.5	58.0	14.4	4	3	4	6	2	3	3	6			5.4
42.5 37.5	30.11	764.8	57.2	14.0	3	5	2	6	2	6	4	3			5.4
42.5 42.5	30.09	764.3	54.5	12.5	3	7	1	7	6	2	1	3		1	5.7
42.5 47.5	30.05	763.3	50.5	10.3	4	9		6	4	6	1	1			5.4
42.5 52.5	29.98	761.5	49.0	9.4	3	6	2	8	7	3	1	1			5.5
42.5 57.5	29.91	759.7	47.4	8.6	5	8	3	7	3	3	1	1			5.7
42.5 62.5	29.89	759.2	42.9	6.1	3	8	4	6	3		2	5			5.6
42.5 67.5	29.93	760.2	36.7	2.6	2	10	3	5	4		2	4	1		5.4
47.5 12.5	30.20	767.1	53.5	11.9	2	5	1	4	8	2	7	1		1	5.2
47.5 17.5	30.18	766.6	54.1	12.3	3	2	5	4	5	3	6	3			5.5
47.5 22.5	30.13	765.3	54.0	12.2	2	5	3	3	7	5	5	1			5.4
47.5 27.5	30.09	764.3	53.9	12.2	3	4	3	3	10	4	2	2			5.4
47.5 32.5	30.05	763.3	52.9	11.6	1	5	4	4	7	4	3	3			5.5
47.5 37.5	30.03	762.7	51.2	10.7	2	6	3	5	10	1		3		1	5.6
47.5 42.5	30.01	762.2	46.1	7.8	3	7	5	5	9	2					5.2
47.5 47.5	29.97	761.2	38.2	3.4	3	9	2	8	8	1					5.3
52.5 12.5	30.17	766.3	47.5	8.6	4	5	5	6	5	2	2	2			4.8
52.5 17.5	30.11	764.8	49.1	9.5		7	3	9	5		4	2	1		5.3
52.5 22.5	30.07	763.8	49.3	9.6	2	3	6	9	5	2	2	2			5.5
52.5 27.5	30.03	762.7	48.7	9.3	1	4	3	13	6	2		2			5.7
52.5 32.5	29.95	760.7	46.6	8.1	3	3	3	16	3	2		1			5.4
52.5 37.5	29.89	759.2	45.6	7.6	3	4	6	11	5	1		1			5.7
52.5 42.5	29.85	758.2	42.1	5.6	2	7	4	9	7	1				1	5.9
52.5 47.5	29.82	757.4	35.2	1.8		13	2	7	6	2				1	5.6
57.5 12.5	30.00	762.0	42.3	5.7	1	6	9	9	1	1	2	2			5.3
57.5 17.5	29.95	760.7	42.7	5.9	1	8	4	12	2	2	1	1			5.7
57.5 22.5	29.91	759.7	42.0	5.6	1	2	9	12	2	2	1	2			5.8
57.5 27.5	29.87	758.7	41.2	5.1	1	4	3	16	2	1		4			5.5
57.5 32.5	29.84	757.9	39.8	4.3	1	6	1	16	2	2		2		1	5.6
57.5 37.5	29.79	756.7	38.2	3.4	1	6	2	12	4	2	1	1		2	5.2
57.5 42.5	29.74	755.4	35.4	1.9	1	8	4	10	4	2		1	1		4.8
57.5 47.5	29.71	754.6	31.2	—0.4	1	9	2	7	6	1	1	1		3	4.8

REVIEW.

INTERNATIONAL METEOROLOGY FOR DECEMBER, 1885.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of December, 1885. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure is located over the northern portion of Norway and the adjacent ocean, and includes a portion of Lapland and the Kola Peninsula. This area is bounded by the isobar of 29.40 (746.7), and minimum mean pressure, 29.32 (744.7), is recorded at Gjæsvær, Norway. A second area of low mean pressure occupies Behring Sea and a portion of the north Pacific Ocean, and includes barometric minima 29.63 (752.6) at Unalashka and 29.67 (753.6) at Behring's Island. At Freetown, Sierra Leone, the mean pressure for the month was 29.77 (756.1). An area of relatively low mean pressure, bounded by the pressure line of 29.90 (759.4), is located over the southern half of British India, and includes mean pressure ranging to 29.83 (757.7) at Belgaum.

The area of highest mean pressure occupies central Asia, with recorded barometric maximum, 30.40 (772.1), at Irkutsk. It is apparent that the mean pressure was higher to the southward of this station, probably ranging to about 30.45 (773.4). Two areas of high mean pressure are located in the United States, one, occupying the west-central portion, being included within the isobar of 30.33 (769.6), and the other extending over a limited area north of the central coast of the Gulf of Mexico, with mean pressure ranging above 30.20 (767.1). An area of high mean pressure extends over southwestern Europe, and includes mean readings ranging from 30.20 (767.1) at Szatmar, Austria, to 30.03 (762.0) on the west coast of France. The permanent area of high mean pressure over the north Atlantic Ocean covers a considerable area, with maximum pressure 30.18 (766.6) in N. 32°, W. 42°.

Over the United States the mean pressure ranges from 30.30 (769.6) over the central Rocky Mountain districts to 29.89 (759.2) in the extreme northwestern portion of the Maritime Provinces; in the British Possessions in North America the mean pressure ranges from 30.04 (763.0) in Manitoba to about 29.70 (754.4) in Labrador; on the Pacific coast of North America the mean pressure ranges from 30.10 (764.5) in N. 40° to 29.71 (754.6) at Sitka, Alaska. Over the north Atlantic Ocean the mean pressure ranges from 30.30 (769.6) off the French coast to about 29.50 (749.3) off the coast of Norway. Over Europe the mean pressure ranges from 30.30 (769.6) over western France to 29.32 (744.7) in the north of Norway. Over Asia the mean pressure ranges from about 30.45 (773.4) over central Asia to about 29.70 (754.4) in Kamchatka.

Compared with the chart for the preceding month (November, 1885) the following changes in mean pressure are shown: In the United States there has been an increase of from .20 to .25 of an inch on the north Pacific coast; over the Rocky Mountain districts the increase ranges from .01 to .10 of an inch, and over the central and southern districts to the eastward the increase is slightly in excess of .10 of an inch. In Canada the atmospheric pressure has increased, except over the Maritime Provinces, where a slight decrease has occurred. Over the north Atlantic Ocean the area of low pressure, which was central south of Iceland in November, has moved northeastward into the Arctic Ocean north of Scandinavia with a decrease in central pressure of about .20 of an inch; slight changes in mean pressure have occurred between Greenland and Labrador; over the western portion of the ocean from Newfoundland to Florida there has been an increase in mean pressure, ranging from .05 to .10 of an inch; within the area of permanent high pressure south of the fortieth parallel there has been a slight increase in mean pressure, and the area is considerably extended as compared with that of the preceding month; over the eastern portion of the ocean the mean pressure has decreased about .20 of an inch off the coast of Norway, while there has been an increase of from .20 to .30 of an inch off the west-central and west-southern coasts of Europe. Over Europe the following changes in mean pressure are shown: In November a contracted area of high pressure was located north of the Black Sea; this area has expanded and moved westward over the southwestern portion of the continent, causing a large increase in mean pressure south of the fifty-fifth parallel and west of the tenth meridian east; over Scandinavia there has been a decrease of from .35 of an inch over the northern extremity to .10 of an inch over the southern portion; over northern Russia the decrease averages about .25 of an inch; over central Russia the mean pressure is .20 to .30 of an inch lower; over southern Russia it is about .10 lower, while over Italy the decrease is scarcely so great. From the above it will be seen that over Europe there has been a general westward movement of high pressure over the southern and south-central portion, and an eastward drift to an area of low pressure over the north Atlantic Ocean, in high latitudes and northern Europe. On the west coast of Africa the mean pressure has increased .10 of an inch in N. 30°, and remains about the same between the tenth and twentieth parallels. Over Asia the mean pressure has increased about .10 of an inch over the central portion; over British India slight changes are noted; over the Japanese Islands there has been a slight decrease over Yesso, while over the balance of Japan the changes are unimportant; over Kamchatka the decrease averages nearly .20 of an inch, while over the eastern portion of Behring Sea there has been an increase in mean pressure of about .10 of an inch.

Compared with the corresponding month of previous years the mean pressure was above the normal for the month in the Gulf States, central and southern Rocky Mountain districts, and on the Pacific coast, the departures not exceeding .10 of an inch, except at Santa Fé, New Mexico, where it amounted to .11; over the northern districts, to the east of Washington Territory, and over the central portion of the country east of the Rocky Mountains, the pressure was below the normal, the departures being most marked in New England and portions of the lower lake region and middle Atlantic states, where they ranged from .10 to .12 of an inch. In Canada the atmospheric pressure was below the normal in all provinces east of the Great Lakes by an amount ranging from .02 to .10 of an inch. In the British Isles the mean pressure was higher than the mean for the corresponding month of twenty years by about .30 over Ireland; .20 over England; and .15 of an inch over the north of Scotland. Over the continent of Europe the following average departures are shown: Over Spain, .09 above; France and Germany, .17 above; Italy, .11 above; Austria, .14 above; over Scandinavia the deficit ranged from .15 to 20, while over Russia the mean pressure was about .14 of an an inch below the normal. Over British India the mean pressure for the month averaged normal; in Japan the mean pressure was slightly above the normal at Tokei.

In the United States the mean temperature was above the average for the month in all districts west of the Mississippi River, except in the west Gulf states, where it was normal; in the south Atlantic and east Gulf states the month was colder than the average; in the northern districts east of the Mississippi River the departures were slight, though generally above the normal. In Canada the mean temperature was above the normal by amounts varying from 0°.7 at Rockliffe and Montreal to 3°.5 at Halifax and 6°.2 at Winnipeg. In the British Isles the mean temperature, when compared with the average for twenty years, was somewhat higher in Scotland, while a slight deficit was shown over England and Ireland; over the continent of Europe the mean temperature was above the normal, save in Italy, Spain, Austria, and Sweden, where it was slightly below the average for eight years; the greatest departure occurred in Denmark, where the excess was 2°.6.

Over British India the mean value for the month averaged 4°.8 above the normal; in Japan the mean temperature for the month was two degrees above the normal at Tokei.

The following table shows the mean pressure and mean temperature for December, 1885, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last eight years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Dec. mean of 8 (1877-'84) years.	Dec., 1885.	Departure.	Dec. mean of 8 (1877-'84) years.	Dec., 1885.	Departure.
				°	°	°
Austro-Hungary	30.05	30.19	+ 0.14	34.2	33.6	— 0.6
British Isles	29.94	30.20	+ 0.26	40.4	41.9	+ 1.5
Denmark	29.87	29.97	+ 0.10	35.1	37.7	+ 2.6
France	30.08	30.25	+ 0.17	42.3	43.2	+ 0.9
Germany	29.99	30.16	+ 0.17	34.4	35.7	+ 1.3
India	29.95	29.95	normal.	69.1	73.9	+ 4.8
Italy	30.02	30.13	+ 0.11	48.2	47.0	— 1.2
Norway	29.75	29.59	— 0.16	31.3	31.5	+ 0.2
Portugal	.....	.....	.....	.....	.....	.....
Russia	30.03	29.89	— 0.14	27.1	25.2	— 1.9
Spain*	30.13	30.22	+ 0.09	50.5	48.6	— 1.9
Sweden	29.82	29.63	— 0.19	25.2	23.3	— 1.9

* Means for seven years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1885, as compared with the means for eight years.

Stations.	Mean pressure.			Mean temperature.		
	Dec. mean of 8 (1877-'84) years.	Dec., 1885.	Departure.	Dec. mean of 8 (1877-'84) years.	Dec., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.22	30.13	— 0.09	29.6	31.3	+ 1.7
Archangel, Russia	29.87	29.50	— 0.37	14.6	12.9	— 1.7
Athens, Greece	30.01	30.03	+ 0.02	55.5	53.2	— 2.3
Beirut, Turkey in Asia	30.00	30.00	normal	64.7	65.3	+ 0.6
Barnaul, Siberia, Asia	30.46	30.22	— 0.24	9.2	13.6	+ 4.4
Bridgetown, Barbadoes*	.....	29.93	.....	.....	84.1	.....
Ekaterinburg, Russia	30.28	29.82	— 0.46	9.6	12.7	+ 3.1
Fort Napier, Natal, South Africa*	29.77	29.87	+ 0.10	77.1	81.1	+ 4.0
Freetown, Sierra Leone	29.82	29.77	— 0.05	85.1	80.7	— 4.4
Funchal, Madeira Islands *	30.15	30.09	— 0.06	65.7	64.4	— 1.3
Gibraltar †	30.14	.....	.....	52.2	58.5	+ 6.3
Godthaab, Greenland *	29.66	.....	.....	17.5	17.5	normal
Havana, Cuba, W. I.	30.05	30.06	+ 0.01	70.2	65.6	— 4.6
Malta, Mediterranean Sea	29.98	30.04	+ 0.06	61.4	57.9	— 3.5
Melbourne, New South Wales	29.86	30.02	+ 0.16	59.7	63.7	+ 4.0
Mauritius, Indian Ocean	29.91	29.86	— 0.05	79.9	80.0	+ 0.1
Mexico, Mexico*	30.25	30.22	— 0.03	45.4	45.0	— 0.4
Nassau, Bahamas, W. I.	30.08	30.07	— 0.01	72.0	69.5	— 2.5
Nikolaevsk on the Amoor, Asia	.....	29.90	.....	— 5.7	— 7.8	— 2.1
Paramaribo, D. Guiana, S. A.	29.93	29.93	normal	78.9	78.8	— 0.1
Ponta Delgada, Azores	30.17	30.08	— 0.09	62.7	61.3	— 1.4
San Juan de Puerto Rico, W. I.	29.97	29.98	+ 0.01	75.7	76.1	+ 0.4
Stykkisholm, Iceland	29.57	29.64	+ 0.07	28.0	27.5	— 0.5
Tashkend, Toorkistan, Asia	30.35	30.28	— 0.07	35.7	36.5	+ 0.8
Thorshavn, Färöe Islands	29.69	29.72	+ 0.03	39.4	38.1	— 1.3
Tiflis, Russia	30.19	30.16	— 0.03	43.7	46.0	+ 2.3
Tokio, Japan	29.99	30.01	+ 0.02	39.1	41.1	+ 2.0
Yeniseisk, Siberia, Asia	30.52	30.08	— 0.44	— 7.2	11.3	+18.5

* Means for seven years only. † Barometer means for six years only.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bridgetown, Barbadoes	84.1	28.9	Nikolaievsk on the Amoor	—7.8	—22.1
Springbok, Cape Colony	81.5	27.5	Fort Saint Michael's, Alaska	1.8	—16.8
Fort Napier, Natal	81.1	27.3	Irkutsk, Asia	6.6	—14.1
Freetown, Sierra Leone	80.7	27.1	Saint Vincent, Minnesota	7.5	—13.6
San Salvador, Africa	80.6	27.0	Fort Totten, Dakota	9.3	—12.6
Bellary, India	80.2	26.8	Yeniseisk, Siberia	11.3	—11.5

In the United States the prevailing winds were generally from northwest to southwest in the Lake region, Ohio Valley, and Tennessee; in the Missouri Valley they were northwesterly; in the Gulf States, Rocky Mountain regions, and on the Pacific coast they were variable. In the British Possessions in North America the winds were variable west of the ninetieth meridian; in Canada they were mostly westerly. Over the north Atlantic Ocean southwest winds prevailed north of the fiftieth parallel; between N. 30° and 50° the winds were southeast east of the thirtieth meridian, variable from W. 30° to 50°, and northwest from W. 50° to the American coast; in low latitudes the wind-direction was dominated by the area of high pressure overlying mid-ocean. Over the British Isles and southwestern Europe the winds were variable within the area of high pressure which prevailed during the month; over Scandinavia and central and eastern Europe the prevailing winds were from south to west; over southern Europe they were variable; Over British India north of the twentieth parallel the winds were mostly from north to west, while over the southern half of the peninsula they were easterly; over the Japanese Islands the prevailing winds were from west to north in the southern portion, variable in the central part, and westerly over Yesso.

In the United States the precipitation was below the average over the greater part of the country, the deficiencies being greatest in the Ohio Valley, Tennessee, west Gulf states, and north Pacific coast region. Along the Atlantic coast south of New England the precipitation was above the average, the excess being greatest on the south Atlantic coast. In Canada the rainfall in Ontario slightly exceeded the average; in Quebec it was below the average; in Nova Scotia, New Brunswick, and Prince Edward Island it was above the average; in Manitoba the rainfall was very light. In the British Isles the rainfall was very deficient, except in the extreme north and northwest portions. Over the balance of Europe an excess of rainfall is indicated over the northern portions and a deficiency south of the fiftieth parallel.

In the United States no special features are noted in connection with the meteorology of the month. The number of storm-areas which appeared was less than the average for the season, and in their passage occasioned disturbances of but moderate strength. In Canada the month was characterized by the comparatively mild weather which prevailed, and by the severe storms which occurred in the Maritime Provinces on the 6th and 7th and the 26th and 27th. Over the north Atlantic Ocean the weather during the month was seasonable and devoid of remarkable features. Over the British Isles the weather was, on the whole, fair; over the balance of Europe the weather averaged fair in the southern and western portions; over the northern portion the conditions were unsettled, owing to the unusual number of storm-areas which traversed that region; over central and eastern Russia the weather was generally cloudy. Over British India clear to fair weather prevailed; Over the Japanese Islands fair weather prevailed, except in northern Hondo where it averaged cloudy. At Behring's Island the weather was generally cloudy, while on the west coast of Alaska it was fair to cloudy.

TRACKS OF AREAS OF LOW PRESSURE FOR DECEMBER, 1885.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during December, 1885. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of eight areas of low pressure are traced over the North American continent, the average number for December during the last twelve years being 12.6. Five depressions either originated in British America, north of the territories, or on the north Pacific coast; two passed from the southwest to the Lake region, and one was a secondary area which developed in the Lake region when the principal area was central in the extreme northwest. The general course of direction of the depressions was more northeasterly after passing to the eastward of the Mississippi Valley than the average direction of low areas for December, and the mean latitude of the tracks was north of the latitude of the normal storm-

tracks for corresponding months of previous years. Two depressions which moved northeastward off the Atlantic coast of the United States are traced and described as ocean storms. One depression, number v, is remarkable by reason of the unusual length of its path, which is traced from the upper Rio Grande Valley into Siberia.

These storms, as traced over the North American continent, are described in detail in the MONTHLY WEATHER REVIEW for December, 1885, under the heading "Areas of low pressure."

Eleven areas of low pressure (numbers ix to xix, inclusive) are traced over the north Atlantic Ocean, seven of which are continuations of storms which passed off the coasts of Newfoundland or Labrador; one is traced from the Caribbean Sea; one first appeared over the ocean to the southwestward of the Azores; one apparently developed off the eastern coast of Florida; one originated over mid-ocean to the northwestward of the Azores, and one is first charted south of Nova Scotia. Six depressions are traced over, or in the vicinity of, Iceland and the southern extremity of Greenland. The general course of direction of these depressions was northeasterly, the principal exception being number xii, which passed eastward over the ocean from Newfoundland to the French coast.

Number ix was central off the east coast of Florida on the 1st, with pressure about 29.75 (755.6), whence it moved northeast to the thirty-eighth parallel by the 2d, with an appreciable decrease in central pressure; continuing a northeast course the storm-centre passed to N. 43°, south of Nova Scotia, by the 3d, where pressure ranging below 29.00 (736.6) was shown, after which it circled northwest into the Gulf of Saint Lawrence and united with land depression number i on the 4th. This storm occasioned light rains and brisk to high northerly backing to northwesterly winds on the coast of the United States during the 1st and 2d, and severe gales occurred on the coast of Nova Scotia on the 3d. Number x apparently developed southeast of Nova Scotia on the 1st whence it moved northeast to the coast of Norway by the 4th, after which date it is continued as a land depression. During the 1st and 2d this depression had barometric minima ranging below 29.80 (756.9); during the 3d and 4th, however, there was a rapid decrease in pressure, and readings below 28.80 (731.5) were shown between the coasts of Scotland and Norway on the latter date. The centre of this storm passed over the north of Scotland and occasioned gales and rains over a large area.

Number xi first appeared southwest of Iceland on the 1st, with pressure about 29.25 (742.9); moving eastward the storm was central on the 2d off the southeast coast of Iceland, where the pressure ranged below 29.00 (736.6); on the 3d the depression reached the coast of Norway in N. 66°, after which it is continued as a land depression. This storm passed too far to the northward to cause disturbances south of the sixtieth parallel.

Number xii was a continuation of land depression number i, which passed eastward over the Gulf of Saint Lawrence and Newfoundland on the 4th; moving eastward, and slightly south of east after passing the thirtieth meridian, the depression reached the coast of France on the 8th. This storm exhibited exceptional energy on the 5th, when pressure below 28.80 (731.5) was shown; after that date there was a rapid increase in barometric pressure, and by the 8th the depression had small individual strength.

Number xiii was a continuation of land depression number iii and, passing eastward over the northern portion of Newfoundland during the early morning of the 8th, circled northward to the southern extremity of Greenland by the 9th, when it merged into an area of low pressure which remained nearly stationary in that locality until the 11th, after which the depression moved east and north of east to the Norwegian coast, in N. 69°, by the 13th. This storm developed great energy during the 12th and 13th, and had pressure ranging below 28.80 (731.5) on the latter date.

Number xiv was a continuation of land depression number iv which passed northeast from Lake Huron and left the coast of Labrador on the 10th; by the 11th the storm-centre had moved northeast and united with the area of low pressure which occupied the ocean off the southeast coast of Greenland. This storm passed too far to the northward of the region of observation to allow of accurately locating its path or of determining its characteristics.

Number xv first appeared over the ocean in N. 25°, W. 42° on the 12th, and moved eastward until the 13th, after which it moved northeast, passing to the eastward of the Azores on 17th; circling north and east the storm-centre passed over the British Isles during the 20th and 21st, thence moving northeast into the North Sea, after which it is continued as a European land depression. During the 12th and 13th this storm had pressure ranging below 29.80 (756.9) and vessel reports show strong gales and rain over a considerable area. During the next three days the storm is given a probable track, as the limited number of reports received from the region through which it passed will not allow of accurately locating its centre. On the 16th and 17th, when in the vicinity of the Azores, the central pressure ranged below 29.60 (751.8); subsequent to these dates the pressure increased and the depression exhibited slight energy.

Number xvi is first located over the ocean to the northward of the Azores on the 14th, whence it moved northeastward to the coast of Norway in N. 61° by the evening of the 16th. This storm had pressure ranging below 29.40 (746.7) on the 14th and 15th, after which it commenced to fill up. Number xvii was a continuation of land depression number v which moved eastward over the northern portion of the Gulf of Saint Lawrence during the early morning of the 15th, whence it passed northeast to the southern extremity of Greenland by the 16th; from this position the centre of depression moved north of east to the north coast of Norway by the 21st. On the 16th this storm had central pressure ranging to about 28.82 (732.0); by the 17th there was a decided increase in pressure, and the storm-centre remained nearly stationary between Greenland and Iceland until the 19th, where it was central of the west coast of Iceland, with barometric pressure 28.55 (725.2) at Stykkisholm; during the next two days the depression moved north of east to the vicinity of Gjæsvær, Norway, where pressure 29.04 (737.6) was shown on the latter date. The storm is continued as a land depression.

Number xviii was a continuation of land depression number vii which passed northeast off the coast of Labrador on the 24th, thence, moving northeast over the southern portion of Greenland, the depression is traced to the northwest coast of Norway by the 27th. This storm exhibited maximum energy on the 27th, when central pressure about 28.50 (723.9) was indicated. On this date the barometric gradient was very steep to the southward and westward, and fresh gales and rain prevailed to the fifty-fifth parallel.

Number xix was a depression of considerable strength which is located over the Caribbean Sea south of Jamaica under date of the 24th; by the 25th the centre of depression had moved northward to the vicinity of Jamaica, where pressure 29.75 (755.6) was shown; passing northward over Cuba, the storm-centre advanced northeastward to the vicinity of Bermuda by the 27th, where pressure ranging below 29.40 (746.7) was shown, and strong gales and rain prevailed to the coasts of the United States and Nova Scotia; on the morning of the 28th the depression was central east of Nova Scotia, with pressure below 29.00 (736.6) and strong gales in the southeast quadrant; from this position the storm passed northward over the eastern portion of the Gulf of Saint Lawrence, and left the coast of Labrador on the morning of the 29th, with pressure about two tenths of an inch higher than on the preceding day, whence it circled northeast to the southeast coast of Greenland by the morning of the 30th, with slight changes in central pressure; thence passing south of east the storm is traced to the westward of Norway, in about N. 64°, by the 31st, with central pressure apparently unchanged.

Eighteen depressions (numbers xx to xxxvii, inclusive) are traced over Europe, eight of which are continuations of storms

which advanced from the ocean; one apparently developed off the coast of Portugal; one first appeared over Italy; one probably originated southwest of Ireland; five are first charted over, or in the vicinity of, Scandinavia, and three are first located over central or eastern Europe. The general course of direction of these depressions was easterly over central Europe, southeasterly over Scandinavia, and northeasterly east of the fortieth meridian. The tracks predominated over Scandinavia and over central and northern Russia. One storm passed directly over the British Isles; one touched the north of Scotland and one the southern extremity of England; one passed over France; two over Italy, and one over the Netherlands and Germany; Austria and Spain were not traversed by well-defined depressions during the month.

Number xx apparently developed over the Baltic Sea on the 1st, and was probably subsidiary to an area of low pressure which was central off the north coast of Norway on that date; by the 2d the depression had moved eastward into Russia, in about N. 57°, E. 39°, whence it passed northeast and disappeared after the 3d. This depression was of slight depth. Number xxii was a continuation of ocean depression number x, and was central on the 5th over the Gulf of Bothnia, with pressure ranging below 28.60 (726.4); moving slowly northeast the depression was located on the 6th over Finland, with slight changes in pressure; thence passing southward to the Gulf of Finland by the 7th the storm circled northeast into Russia by the 8th, with pressure about 28.80 (731.5); moving slowly eastward the storm was central on the 9th in N. 63°, E. 55°, whence it passed south to N. 55° by the 10th, after which it advanced northeast and disappeared after the 11th.

Number xxiii first appeared south of Ireland on the 5th, whence it moved east into Germany by the 6th, after which it apparently passed northeast and dispersed. This depression was shallow and possessed small energy. Number xxiv was a continuation of ocean depression number xii which reached the French coast on the 8th; passing south of east over France the depression was central over the Gulf of Genoa on the 9th, whence it moved east over Italy into the Adriatic Sea by the 10th, with central pressure about 29.60 (751.8), fresh gales and rain; by the 11th the storm-centre had advanced southeast into Turkey, with a slight decrease in central pressure. On this date a subsidiary depression developed over the eastern portion of Austro-Hungary and moved southeast into the Black Sea by the 12th, uniting with the principal depression which had advanced from the southwest; passing northeast over Crimea the centre of depression reached the north coast of the Sea of Azof by the 13th, after which it apparently dissipated to the northeastward.

Number xxv was a depression of pronounced strength which appeared off the west coast of Portugal on the 8th, whence it passed southwest and merged into an area of low pressure which was central in about N. 35°, W. 20° during the 9th and 10th, after which it disappeared. Number xxvi advanced from the direction of the Baltic sea, and, passing over Poland, entered west Russia on the 9th, with pressure about 29.50 (749.3), whence it moved rapidly north of east and united with depression number xxii on the 10th. Number xxvii was a continuation of ocean depression number xiii and passed over the northern portion of Scandinavia during the 13th and 14th, with pressure ranging below 28.80 (731.5) on the 13th; by the 14th the storm had passed to the northward of Kola Peninsula, whence it moved beyond the region of observation.

Number xxviii first appeared off the northwest coast of Norway on the 15th, whence it moved southeast over the White Sea by the 16th, with pressure below 29.40 (746.7); passing southeast the depression passed into Asia by the 17th, after which it apparently moved northeastward beyond the region of observation. Number xxix was a continuation of ocean depression number xvi, and, passing east over Scandinavia during the 16th, was central on the 17th south of the Gulf of Finland, whence it moved southeast into east Russia by the 18th, with pressure ranging below 29.40 (746.7); during the next two days the storm advanced eastward into Asia without apparent loss of energy, after which it disappeared. Number xxx was a continuation of ocean depression number xv and passed northeast over the British Isles during the 20th and 21st, with a slight display of energy; by the 22d the storm-centre had moved to the south coast of Scandinavia; thence passing southeast over the Baltic Sea by the 23d the depression apparently dissipated over east Prussia.

Number xxxi was a continuation of ocean depression number xvii and passed to the northward of Scandinavia during the 21st, with pressure ranging to about 29.00 (736.6); moving rapidly southeast the storm passed into Asia during the evening of the 22d and disappeared to the eastward after the 23d. Number xxxii apparently developed over Finland on the 24th, and, moving southeast, disappeared over the eastern border of Russia after the 27th. This storm had pressure ranging below 28.80 (731.5) on the 24th, but during its progress eastward the depression gradually filled up. Number xxxiii first appeared over central Scandinavia on the 25th and passing rapidly southeast and east united with number xxxii on the 27th. This storm exhibited pressure ranging below 29.10 (739.1) on the 26th, and was accompanied throughout its course by disturbances of unusual severity.

Number xxxiv was a continuation of ocean depression number xviii and passed over the northern portion of Scandinavia during the 27th and 28th, with pressure ranging below 28.60 (726.4), after which it disappeared to the eastward. Number xxxv apparently advanced northeast from the North Sea and was central over the northern extremity of the Gulf of Bothnia on the 29th, with pressure ranging to 28.38 (720.8) at Haparanda and strong gales and rain over a large area; moving northeast the depression disappeared beyond the region of observation after the 29th. Number xxxvi was a depression which passed southeast over Sweden during the 30th, with central pressure ranging to about 29.30 (744.2), whence it moved east over the Gulf of Bothnia into Finland by the 31st, with a decided increase in central pressure. Number xxxvii first appeared over the northern portion of Italy on the 30th, with pressure ranging below 29.50 (749.3), whence it moved sse. to Sicily by the 31st, with slight changes in central pressure.

Nine depressions (numbers xxxviii to xlvi, inclusive) are traced off the eastern coast of Asia, over the Japanese Islands, Behring Sea, and the north Pacific Ocean, of which five are charted over the Japanese Islands, one being traced eastward to the vicinity of Sitka, Alaska; one first appeared over the western portion of the Sea of Okhotsk; one apparently developed east of Kamchatka, and two approached the American coast in the neighborhood of Sitka, from the southwest.

Number xxxviii was central off the east coast of Kamchatka on the 1st, with pressure ranging to 28.96 (735.6) at Behring's Island, whence it passed southeast to the Aleutian Islands by the 2d, when pressure 28.94 (735.7) was shown at Unalashka; from this position the depression moved northeast, passing beyond the region of observation after the 3d. Number xxxix first appeared over the west portion of the Sea of Okhotsk on the 3d, with pressure ranging to 29.36 (745.7) at Nikolaievsk, whence it is given a probable easterly track over the Sea of Okhotsk and Kamchatka to Behring's Island by the 6th, where it merged into an area of low pressure which occupied that locality until the 13th.

Number xl was central over Kiu-siu on the 10th, whence it had apparently advanced from the southwestward; from this position the depression moved northeast over Hondo and probably dissipated. Number xli was a depression which was central off the American coast in N. 58° on the 15th, with pressure ranging to 28.82 (732.0) at Sitka, Alaska. This area of low pressure did not, apparently, pass into the interior, but caused the development of number xlii to the southeastward on the 16th, which moved northeast and disappeared over the continent beyond the region of observation. Number xliv is first

charted over the ocean east of Hondo on the 19th, whence it moved north to the west coast of Yesso by the 20th, after which it passed east and northeast to the vicinity of the Aleutian Islands by the 24th, without evidence of special energy.

Number xlv appeared south of Corea on the 23d and moved northeast over the Sea of Japan to the west coast of Yesso by the 25th. The depression was of slight depth, and probably dissipated after the 25th. Number xlvi apparently developed over the Sea of Japan and moved to the south coast of Yesso by the 28th, where pressure ranging below 29.60 (751.8) was shown; moving slowly northeast the storm passed to sea beyond the region of observation after the 30th. This storm was the severest that occurred in the vicinity of the Japanese Islands during the month and occasioned strong gales off the east coast of Hondo and Yesso.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◍ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

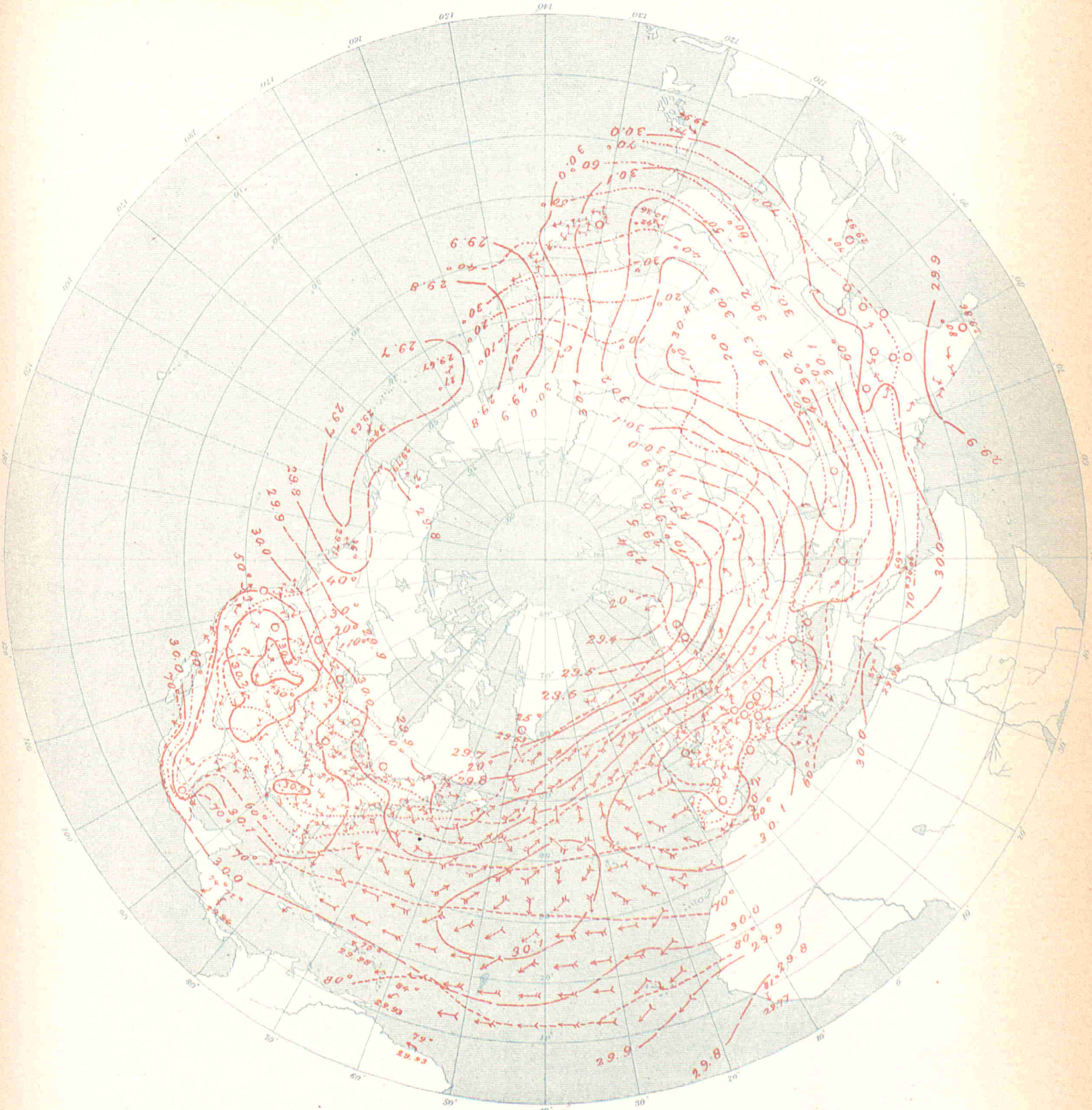
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
Captain, 5th Cavalry, A. S. O. and Asst.,
Acting Chief Signal Officer, U. S. Army.

International Chart II. December, 1885. Isobars, Isotherms, and Winds.



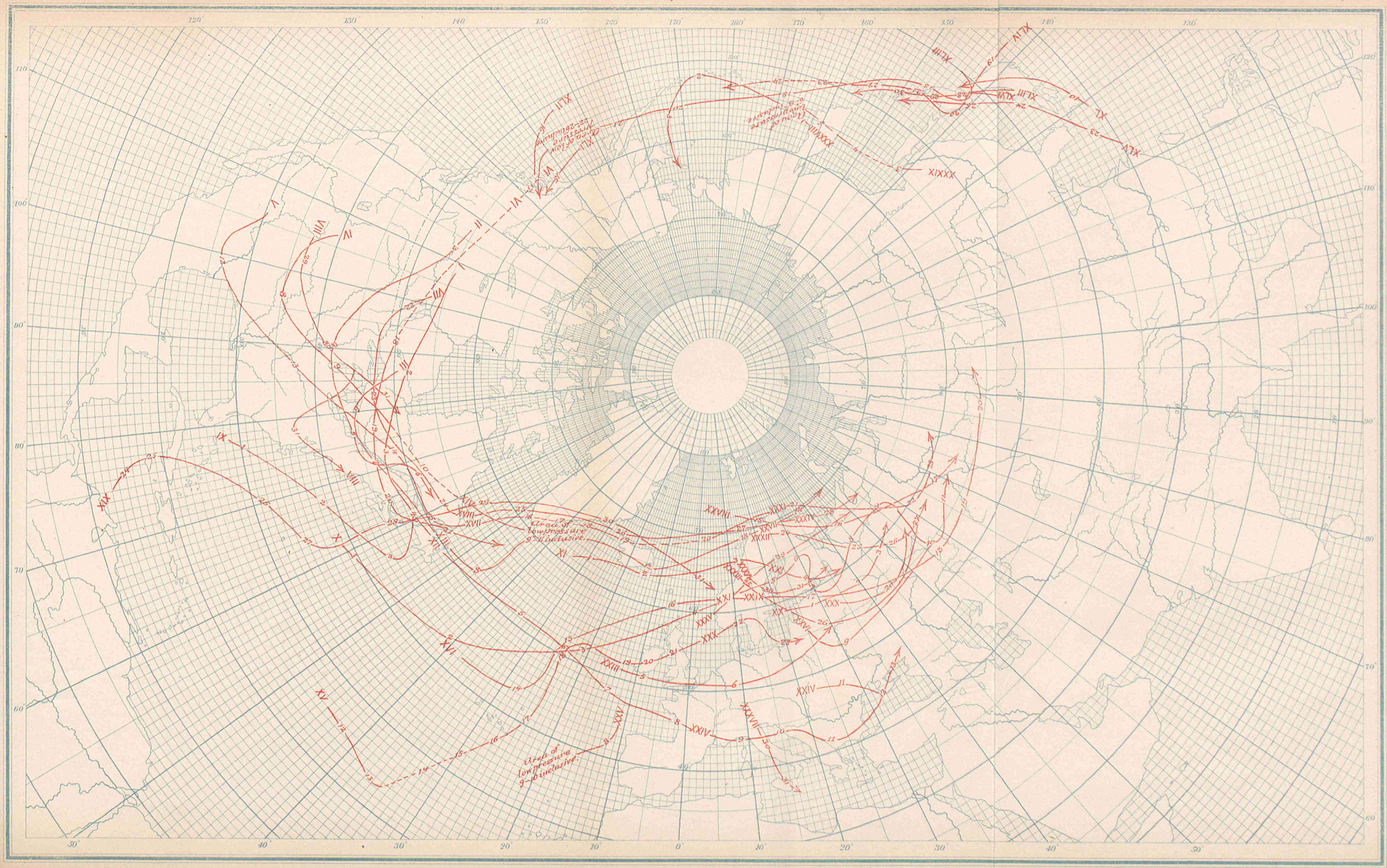
UNITED STATES OF AMERICA.

By Order of the Secretary of War.

A. W. GREELY,
Capt., 5th Cavalry, A. S. O. and Asst.,
Acting Chief Signal Officer, U. S. A.

Signal Office 14th.

International Chart III. December, 1885. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December, 1885—Continued.

Name of vessel.		Captain.
STATE LINE.		
Br.	s. s. State of Georgia	G. Moodie.
	State of Indiana	A. Ritchie.
	State of Nebraska	A. G. Brace.
	State of Nevada	John A. Stewart.
	State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.		
Dan.	s. s. Geisor	F. V. Schierbeck.
	Hekla	A. G. Thomsen.
	Island	W. Skjodt.
	Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. CO.		
Am.	s. s. Advance	Jas. R. Beers.
	Merrimack	W. Weir.
WARREN LINE.		
Br.	s. s. Iowa	Samuel Walters.
	Missouri	R. Poland.
	Norseman	E. Maddox.
	Roman	D. Williams.
WHITE CROSS LINE.		
Belg.	s. s. De Ruyter	Capt. J. J. Brarens.
	Jan Breydel	H. Meyer.
	Pieter de Coninck	E. Smit
WHITE STAR LINE.		
Br.	s. s. Adriatic	H. Parsell.
	Baltic	Geo. Burton.
	Celtic	Benj Gleadell.
	Germanic	C. W. Kennedy.
	Republic	P. J. Irving.
WILSON LINE.		
Br.	s. s. Bravo	Charles Smith.
	Bassano	T. J. Moore.
	Chicago	J. W. Jones.
	Galileo	Richard Potter.
	Lepanto	B. H. Rogers.
	Otranto	F. Kerr.
	Salerno	Wm. Abbott.
	Sorrento	R. Potter.
MISCELLANEOUS.		
Br.	s. s. Aboraca	Robt. Temple.
Ger.	Brutus	J. A. Voege.
Br.	Bedford	Thos. Aitkenhead.
	Camden	S. R. Chandler.
	Cranbrook	John W. Harvey.
	Coventry	W. C. Bacon.
	Craighill	W. H. Bennett.
	Edith Godden	John H. Bennett.
	El Callao	Jos. Scholtz.
	Elstow	Thos. Robertson.
Span.	Hugo	A. de Mugica.
Br.	Joseph Fevons	John Mohegan.
	Lord Lansdowne	C. H. Baskfill.
	Lord O'Neill	Jas. Dunn.
Am.	Lorenzo D. Baker	W. F. Wiley.
Br.	Matthew Bedlington	Thos. Kirby.
	Macedonia	W. Watson.
Br.	Marsalia	Wm. Shaw.
	Menzaleh	J. B. McKie.
	Netley Abbey	H. N. Vyvyan.
	Oxfordshire	C. P. Jones.
	Pomona	C. E. Cook.
	Prydain	Moses Perry.
Ger.	Rhaetea	J. Viereck.
Br.	Roman	David Williams
	Rydal Water	J. H. Jones
	Saint Ronans	Henry Campbell.
	Strathleven	C. W. Pearson.
	Sulina	Thos. Potter.
	Thalia	E. Fletcham.
Span.	Valentia	Ch Off. J. A. Estopiñá.
Br.	Vectumnus	Capt. John Legoe.
	Viola	L. Murray.
SAILING VESSELS.		
Am.	bg. Abbie Clifford	Capt. D. W. Storer.
	schr. Abbie H. Gheen	W. W Gheen.
Br.	bg. Achsah	Alfred M. Shaw.
	bk. Ada Peard	N. Hocken.

Name of vessel.		Captain.
SAILING VESSELS—Continued.		
Am.	Albemarle	W. H. Forbes.
It.	bk. Agostino Bombo	Vinconzo Basso.
Am.	schr. Annie R. Lewis	L. L. Lewis.
	bk. Antonio Sala	F. H. Mitchell.
	schr. Anna T. Ebener	W. W. Cherry.
	bg. Arcot	J. W. Cates.
Nor.	bk. Artemis	E. E. Moe.
Br.	sp. British Isles	G. Southcott.
	Caesarea	J. C. Barrette
Am.	sp. Chas. S. Whitney	Geo. D. Spicer.
Ger.	Columbus	B. Sauermilch.
Br.	bkt. Corisande	D. Thoms.
Ger.	sp. Derby	B. Fortmann.
	bk. Diamant	H. Haesloop.
Am.	bk. Don Justo	Jerome P. Jones.
Br.	sp. E. J. Spicer	Dewis Spicer.
Am.	schr. Emily Shepard	E Coggins.
	Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	George J. Pearce.
Ger.	Freiheit	H. Spieska.
Dan.	Galeon	H. H Kalsboll.
Am.	Gamaliel	C. S. Powell.
Ger.	George Washington	J. Probst.
	Godeffroy	C. R. Stuuig
Am.	schr. Governor Hall	John Cain, jr.
Nor.	bk. Grundloven	O G. Ellingsen.
Am.	bkt. Harriet S. Jackson	W. F Bacon
Br.	bg Harry & Aubrey	J. N Tedford.
	bk Havester	W. Cassidy.
Ger.	bk. Heinrich & Tonio	L. Myer.
Am.	schr. Henry Waddington	W H. Magee.
Br.	Hermon	F. N. Marvin.
Ger.	Hedwig	Th. Minssen.
Am.	bk. Idaho	W. S. Richardson.
It.	Ismaelo	C. Fiodo.
Ger.	sp. J. W. Gildemeister	Arnold Lehmann.
Am.	bg. John Wesley	J. H. Hines.
Br	bk. Kryolith	W. C. Stephen.
	bg. Kenilworth	P. Doig.
Br.	Lilian	H. F. Schive.
Am.	L. & W. Armstrong	Albion Alexander.
Ger.	bk. Leocadia	J. Stohff.
Nor.	Lovspring	G. Thomsen.
Br.	bkt. Lydia	Geo. Lowery.
Am.	bg. Mary Fink	Daniel B. Darrah.
	Mary L. Cushing	C. Downs.
	bk. Mohican	B. F. Berry.
Br.	sp. Morna	J. H. Goodwin.
Am.	schr. Nellie M. Slade	J. A. Gould.
	Nelson Bartlett	Samuel Watts.
Nor.	bk. Nordcap	E Salvosen.
Ger.	sp. Palme	William Bahls.
Am.	Rembrandt	J. W. McGilvery.
Dan.	bk Rialto	N. P. Hanson.
Br.	bkt. Rosebud	John Collie.
It.	bk. Rosina	G. Tomaselli.
Am.	sp. St. David	W. W. Frost.
	bk. Samuel B. Hale	A. S. Haven
	schr. Sarah D. J. Rawson	Thos. D. French.
	bk. Sarah Doe	B. S. Merryman.
Br.	sp. Servia	E. M. Smith
Nor.	bk. Tros	Severin Brager.
Am.	bg. Teneriffe	N. S. Tracy.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N V. Lavagna.
Br.	sp. Winnifred	R. MacDonald.
Am.	Xenia	N. E. Reynolds.
N. Y. HERALD WEATHER SERVICE.		
Am.	s. s. Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell
Am.	Advance	J. R. Beers.
Br.	Ailsa	J. W. Samson.
	Albano	H R. Hughes.
	Alene	E. J. Seiders.
	Algiers	J. B. Percy.
	Alvo	D. Williams.
	Arizona	Sam. Brooks.
	Aurania	W. H. P. Hains.
	Baltic	G. Burton.
Belg.	Belgenland	W. A. Beynon.
Br.	Britanic	H. Perry.
Am.	City of Alexandria	J. W. Reynolds.
Br.	City of Berlin	F. S. Land.
	City of Chicago	Fred. Watkins.
	Celtic	Benj. Gleadell.
Am.	City of Puebla	John Deakin.
Br.	Charibol	T. M. McKnight.
	City of Richmond	Authur Lewis.
Am.	Colon	Chas. C Lima.
	Chalmette	Robert B. Quick.
Ger.	Ems	W. Willigerod.

Name of vessel.		Captain.
HERALD WEATHER SERVICE—Con.		
Br.	Etruria	T. Cook.
	Gallia	M. Murphy.
Dan.	Geiser	F. V. Schierbeck.
Ger.	Lessing	B. Voss.
Belg.	Nederland	A. J. Griffin.
Br.	Nevada	—— Douglass.
	Olympia	James Brown.
	Oregon	P. Cottier.
	Orinoco	S. Garvin.
Dtch.	P. Caland	T. H. Bonjer.
Br.	Persian Monarch	Jas. Watson.
Belg.	Pennland	R. Weyer.
Br.	Republic	P. J. Irving.
Belg.	Rhynland	J. C. Jamison.
Am.	San Marcos	Ch. Off. A. B. Conner.
Dtch.	Schiedam	Capt. G. Bakker.
Br.	Servia	H. McKay.
Br.	State of Pennsylvania	A. J. Mann.
	State of Nebraska	A. G. Brace.
Belg.	Switzerland	H. Buschmann.
Fr.	St. Laurent	M. de Jousselin.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Westernland	Com. W. G. Randle.
	Waesland	Capt. J. Ueberweg.
Br.	Wisconsin	E. Bentley.
Belg.	Zealand	L. de Smet.
UNITED STATES NAVAL.		
U. S. S.	Adams	Louis Kempff.
U. S. S.	Alert	C. J. Barclay.
U. S. S.	Alliance	C. McGregor.
U. S. S.	Brooklyn	E. O. Matthews.
U. S. S.	Enterprise	
U. S. S.	Galena	W. Chester.
U. S. S.	Hartford	Charles M. Thomas.
U. S. S.	Iroquois	Yates Stirling.
U. S. S.	Jamestown	C. V. Gridley.
U. S. S.	Juniata	P. F. Harrington.
U. S. S.	Kearsarge	C. D. Sigsbee.
U. S. S.	Lancaster	E. E. Potter.
U. S. S.	Marion	Merrill Miller.
U. S. S.	Michigan	J. J. Read.
U. S. S.	Monongahela	Geo. B. Livingston.
U. S. S.	Mohican	B. F. Day.
U. S. S.	Nipsic	W. S. Dana.
U. S. S.	Omaha	T. O. Selfridge.
U. S. S.	Ossipee	J. F. McGlensey.
U. S. S.	Palos	T. Nelson.
U. S. S.	Pensacola	Geo. Dewey.
U. S. S.	Pinta	H. T. Monahon.
U. S. S.	Portsmouth	Silas W. Terry.
U. S. S.	Powhatan	L. A. Beardsly.
U. S. S.	Quinnebang	Geo. W. Hayward.
U. S. S.	Ranger	C E. Clark.
U. S. S.	Saratoga	W. H. Whiting.
U. S. S.	Shenandoah	Chas. S. Norton.
U. S. S.	Swatara	E. T. Windham.
U. S. S.	Tennessee	Robert Boyd.
U. S. S.	Trenton	R. L. Phythian.
U. S. S.	Yantic	
BRITISH NAVAL.		
H. M. S.	Alexandra	H. G. Andoe.
H. M. S.	Audacious	H. L. Pearson.
H. M. S.	Active	Com. R.O.B. Fitzroy, C.B.
H. M. S.	Briton	Dapt. R. M. Lloyd.
H. M. S.	Bacchante	A. W. Moore.
H. M. S.	Cleopatra	L. Keppel.
H. M. S.	Champion	A. T. Powlett.
H. M. S.	Constance	F. Proby-Doughty.
H. M.	Dockyard, Bermuda	J. F. G Grant.
H. M. S.	Flying Fish	J. P. Maclear.
H. M. S.	Himalaya	H. B. Pallister.
H. M. S.	Heroine	F. R. Blackburn.
H. M. S.	Lark	J. F. Pullen
H. M. S.	Minotaur	J. Fellows, C. B.
H. M. S.	Midge	E. Hotham.
H. M. S.	Nelson	A. Lake.
H. M. S.	Orontes	C. B Theobald.
H. M. S.	Osprey	H. W. Dowding.
H. M. S.	Raleigh	A. K. Wilson, V. C.
H. M. S.	Ruby	C. F. Hocham, C.B.
H. M. S.	Superb	H. F. Cleveland.
H. M. S.	Satellite	A. H. Alington.
H. M. S.	Tamar	J. B. Warren.
DUTCH NAVAL.		
Bromo		
Koningen Emma der Nederlander		
Prins Hendrick der Nederlander		

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December, 1885.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Karl Stancel.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell & Niven.
Bidston, Liverpool Obs'y	John Hartnup.
Bolton, Sharples	Thomas Mackereth.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	J. C. McConney.
Chatham, School M. E	P. D. P. McHugo, R. E
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	J. S. Keene.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Sandwick Manse, Orkneys	Jas. R. Anderson.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning, M. D.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kérmaree, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lamballe, Normal School	M. Poilpré, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Sieveking.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Magdeburg	Weather Observatory.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Lecce	Prof. C. de Giorgi.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Ogawa.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Misaka	T. Ishitain & T. Saki.
Miyako	K. Sawa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.

Stations.	Observers.
JAPANESE—*Continued.*	
Nilgata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Onura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	Prof P. Spina.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjaesvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
ROUMANIAN.	
Bucharest	
RUSSIAN.	
Akmolinski	Major K. Lasarew.
Archangel	Capt. Sselliwerstow.
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	Lagorio & Sastyrez.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
Pointe à Petre	L. Guesde.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JANUARY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Norwegian	R. Carruthers.
Sarmatian	Wm. Richardson.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
Lord Clive	P. Urquhart.
Ocean Prince	W. J. Milburn.
ANCHOR LINE.	
Br. s. s. Alexandria	Robert Pert.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Dorian	I. Swain.
Ethiopia	John Wilson.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	John W. Sansom.
Albano	H. R. Hughes.
Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Antillas	B. Morán.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CANADA SHIPPING Co.	
Br. s. s. Lake Winnipeg	H. Campbell.
Lake Superior	Wm. Stewart.
CROMWELL LINE.	
Am. s. s. Louisiana	E. N. Gager.
Hudson	H. R. Freeman.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Gallia	M. Murphy.
Oregon	P. Cottier.
Pavonia	B. Woodfenden.
Servia	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Europa	L. A. Kessal.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	C. Ollive.
Neustria	P. Verrières.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
Canada	G. de Kersabiec.
St. Germain	E. Traub.
Labrador	P. dé Hauterive.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. W. H. Bates.
GUION LINE.	
Br. s. s. Abyssinia	Capt. J. Price, R. N. R.
Alaska	Geo. S. Murray.
Arizona	J. Price, R. N. R.
GUION LINE—Continued.	
Br. s. s. Nevada	Capt. John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Archimedes	W. H. Fairlem.
Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Euclid	Alex. W. Pym.
Halley	W. P. Ballantine
Belg. Hipparchus	W Kelly.
Keppler	E. Johnson.
Br. Mozart	Wm. Spratly.
Olbers	Jas Clark.
Teniers	A. Matheson.
Thales	J. McAuley.
LEYLAND LINE.	
Br. s. s. Istrian	Robert Leask.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Pontiac	J. H. Martin.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptain Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Canada	William Pearce.
Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Hooley.
Erin	John Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Sumner.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Diliberto.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Ems	W. Willigerod
Fulda	R. Ringk.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	Capt. John Metcalfe.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	K. S. Nickerson.
Juniata	S. L. Askins.
Chattahoochee	J. W. Catherine.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Geo. W. Elder	H. S. Achley.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
Santa Rosa	C. B. Johnson.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
Colima	J. M. Caverly.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
Zealandia	Henry Webber.
PYMAN WATSON STEAMSHIP Co.	
Br. s. s. Notley Abbey	H. N. Vyvyan.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Theresena	I. Hempthorne.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Leerdam	P. Sliverendregt.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. von der Zee.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Thingvalla	S. T. H. Laub.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	Wm. Gleig.
Missouri	R. Poland.
Norseman	E. Maddox.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Jan Breydel	H. Meyer.
Pieter de Coninck	E. Smit.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

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FOR THE MONTH OF JANUARY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, JANUARY, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1886.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.												
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																							
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.83	757.7	29.96	761.0	71.5	21.9	48	.....	1	2	6	6	9	1	1	5	7858	12646	5	0.77	19.6
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.79	756.7	29.98	761.5	59.9	15.5	85	5	1	1	5	6	6	3	1	3	.....	.....	6	2.82	71.6
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.88	758.9	29.96	761.0	65.5	18.6	76	.....	2	2	2	6	13	5	1	.....	.....	.....	5	4.53	115.1
Austrian.																									
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.28	743.6	29.85	758.1	34.7	1.5	82	1	2	9	6	.....	2	1	9	.....	.....	.....	8	5.07	128.7
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.02	737.0	29.83	757.7	29.7	— 1.3	87	5	.....	5	10	1	.....	1	9	.....	.....	.....	8	1.62	41.1
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	28.93	734.7	29.84	758.0	28.8	— 1.8	90	1	.....	.....	.....	8	.....	.....	.....	22	.....	.....	9	3.42	86.8
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.54	725.0	29.84	758.0	31.6	— 0.2	84	2	3	7	4	10	3	1	1	.....	.....	.....	7	2.25	57.2
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.43	722.1	29.85	758.1	27.7	— 2.4	89	.....	.....	6	4	.....	.....	1	6	14	.....	.....	8	1.96	49.9
Lembergo	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.82	731.9	29.85	758.3	32.2	0.1	80	.....	2	1	.....	1	9	3	.....	.....	.....	.....	8	2.78	70.5
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.65	753.2	29.76	756.0	47.3	8.5	73	1	.....	5	.....	4	7	6	3	5	.....	.....	6	3.91	99.3
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.37	746.1	29.86	758.4	39.0	3.9	80	2	.....	6	.....	8	12	3	.....	.....	.....	.....	7	2.60	65.9
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.51	749.6	29.81	757.2	36.5	2.5	84	.....	3	8	4	7	5	1	2	1	.....	.....	8	2.67	67.9
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.10	739.1	29.86	758.4	30.4	— 0.9	85	1	5	8	1	.....	8	.....	.....	8	.....	.....	8	2.36	60.0
Brazilian.																									
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.78	756.3	29.95	760.8	80.2	26.8	70	3	11	1	1	.....	1	2	5	7	.....	.....	5	1.03	26.2
British.																									
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.46	748.3	29.59	751.6	36.5	2.5	76	1	4	5	8	5	4	3	1	.....	.....	.....	7	2.46	62.5
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.64	752.8	38.0	3.3	79	2	4	4	10	2	3	3	3	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.20	741.7	29.62	752.3	37.1	2.8	74	4	5	6	4	2	4	1	5	.....	.....	.....	8	5.22	132.6
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.98	761.5	29.94	760.5	81.7	27.6	76	1	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	2	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.51	749.5	29.71	754.6	38.4	3.6	78	2	2	2	2	8	.....	1	.....	14	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.53	750.0	29.74	755.4	41.7	5.4	81	6	7	5	6	4	.....	1	2	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.57	700.3	29.86	758.4	82.3	27.9	59	8	.....	1	.....	2	6	1	13	.....	.....	.....	6	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.85	758.4	81.3	27.4	90	9	1	2	2	8	5	4	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.62	752 3	29.68	753.9	39.8	4.3	82	3	5	7	9	.....	2	1	4	.....	.....	.....	7	4.31	109.5
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	54.4	12.4	87	.....	18	4	4	.....	.....	1	4	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 0c	12 m.	159	48	29.48	748.8	29.67	753.6	43.6	6.4	43	4	4	.....	9	5	4	.....	5	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.43	747 5	29.73	755.1	42.0	5.6	91	3	7	9	2	3	1	4	2	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.63	752.6	29.69	754.1	38.2	3.4	81	3	6	4	8	5	2	2	1	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.37	746 0	29.65	753.1	38.0	3.3	83	3	4	2	13	3	1	1	4	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.74	755.4	29.79	756.7	56.3	13.5	70	.....	12	.....	9	1	8	.....	1	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.03	762.7	30.03	762.7	65.7	18.7	82	3	5	4	1	1	3	9	4	1	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.43	747.5	29.68	753.9	37.9	3.3	83	2	5	3	10	4	3	.....	4	.....	.....	.....	8	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.62	752.3	29.70	754.4	40.8	4.9	87	5	6	4	4	1	1	.....	3	7	.....	.....	8	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.38	746.2	29.50	749.3	36.9	2.7	84	3	4	2	7	5	4	1	5	.....	.....	.....	8	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.84	757.9	29.90	759.4	53.3	11 8	56	2	.....	.....	5	8	4	1	7	4	.....	.....	7	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.63	752.6	36.1	2.3	83	3	4	11	2	3	2	2	4	.....	.....	.....	8	7.25	184.2
Valencia	N. 51 55	W. 10 18	11.19 a.m	23	7	29.74	755.4	29.79	756.7	42.5	5.8	71	4	5	9	3	1	1	2	6	.....	.....	.....	8	.....	.....
Sub-series.																									
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.41	747.0	29.78	756.4	56.4	13.6	71	.....	9	6	9	3	2	2	.....	.....	7821	12587	7	4.33	110.0
Canadian.																									
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	30.00	762.1	30.05	763.3	8.7	—12.9	.....	4	2	11	3	.....	2	1	.....	8	.....	.....	8	8.24	209.3
Bird Rocks	N. 37 50	W. 61 10	7.56 a.m.			29.88	758.9	30.02	762.5	24.3	— 4.3	89	2	8	5	4	2	7	1	2	.....	.....	.....	8	3.27	83.6
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.97	761.2	30.01	762.2	19.2	— 7.1	92	2	4	4	3	5	5	2	3	3	5499	8850	6	7.61	193.3
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.97	761.2	30.04	763.0	11.7	—11.3	94	4	1	10	5	1	.....	1	7	2	3582	5764	6	6.80	172.7
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.73	755.2	29.96	761.0	9.1	—12.7	89	2	3	11	3	2	1	7	2	.....	.....	.....	7	2.35	59.7
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.94	760.5	30.03	762.7	10.8	—11.8	.....	.....	.....	.....	15	.....	.....	3	.....	13	.....	.....	7	3.25	82.5
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	30.00	762.0	30.03	762.7	11.5	—11.4	88	.....	5	3	7	1	1	.....	13	1	8943f	14392f	8	3.61	91.7
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.39	746.5	30.36	771.1	—17.0	—27.2	85	10	6	1	.....	7	.....	1	2	4	6772	10898	6	0.61	15.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.80	758.4	30.07	763.8	12.6	—10.8	87	1	.....	14	1	.....	.....	12	3	....	5105	8216	7	5.50	139.7
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.96	761.0	30.02	762.5	22.1	— 5.5	97	2	7	3	1	4	1	2	9	2	8787e	14141e	8	7.12	180.8
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.88	733.5	30.01	762.3	16.6	— 8.6	96	5	1	5	.....	3	2	3	1	11	3915	6300	8	3.10	78.7
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.91	759.7	30.05	763.3	24.9	— 3.9	89	5	.....	10	3	5	5	.....	3	.....	.....	.....	8	8.55	217.2
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.66	753.4	30.09	764.3	19.3	— 7.1	81	4	2	8	7	2	3	2	3	.....	.....	.....	8	3.18	80.8
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.69	754.1	30.05	763 3	12.7	—10.7	88	5	4	2	3	6	.....	.....	11	.....	4652	7486	8	5.82	147.8
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.95e	760.7e	29.990	761 7e	28.1e	—2.2e	88e	0	4	3	8	7	2	.....	3	2	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.09	738.9	30.06	763.5	18.5	— 7.5	89	2	2	5	2	2	1	3	.....	14	3057	4920	8	5.76	146.3
Medicine Hat *a*	N. 50 01	W.110 37	4.38 a.m.	2136	651	27.77	705 3	30.32	770.1	— 5.2	—20.7	91	2	1	.....	1	3	.....	.....	3	20	4425	7121	4	0	0
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.26	717.8	30.40	772.1	—15.7	—26.5	88	5	5	1	.....	.....	3	5	4	8	5417	8718	4	0.50	12.7
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.82	757.4	30.05	763.3	9.8	—12.3	87	3	7	5	1	5	.....	4	4	2	.....	.....	8	3.56	90.4
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.79	756.7	30.06	763.5	7.0	—13.9	87	1	9	3	2	.....	.....	9	7	.....	5342	8597	7	3.91	99.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.30	744.2	30.06	763.5	8.2	—13.2	70	6	2	6	.....	4	4	4	2	3	8377	13481	8	3.81	96.8
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	11.1	—11.6	88	1	6	.....	1	.....	2	5	7	9	.....	.....	7	4.74	120.4
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.42	747.3	30.23	767.8	— 5.0	—20.6	87	7	13	6	1	1	.....	.....	1	2	4085	6574	3	1.07	27.2
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.30	744.2	30.04	763.0	18.6	— 7.4	95	1	3	5	4	4	1	2	6	5	5724	9212	8	3.98	101.1
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.34	745.2	30.04	763.0	19.6	— 6.9	87	1	1	15	2	.....	3	6	3	.....	.....	.....	8	4.60	116.8
Qu' Appelle	N. 50 44	W.103 42	5.05 a.m.	2115	645	27.76	705.1	30.42	772.7	—19.3	—28.5	.....	1	8	2	7	2	.....	1	1	9	6932	11156	3	0.40	10.2
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.64	752 8	30.03	762.7	11.8	—11.2	83	.....	2	5	7	.....	.....	9	7	1	.....	.....	8	3.70	94.0
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.56	750.8	30.07	763.8	0.8	—17.3	90	1	10	3	.....	.....	4	7	.....	6	.....	.....	6	5.57	141.5
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.95	760.7	30.00	762.0	19.7	— 6.8	94	7	5	1	1	1	4	2	9	1	.....	.....	6	8.53	216.7
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.90	759.5	30.04	763.0	18.5	— 7.5	89	8	5	4	3	1	.....	4	4	2	.....	.....	7	6.07	154.2
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.03	762.7	35.4	1.9	.....	1	6	2	6	2	5	6	2	1	.....	.....	.....	8.58	218.0
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.26	743.2	30.03	762.7	16.7	— 8.5	94	3	4	.....	.....	9	2	5	7	1	9014	14506	8	4.89	124.2
SW. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.			29.94	760 5	29.98	761.5	17.3	— 8.2	88	3	1	5	.....	8	2	10	.....	2	.....	.....	7	3.65	92.7
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28 71	729.2	30.03	762.7	15.4	— 9.2	89	1	5	7	5	.....	4	3	4	2	6190	9962	8	6.68	93.5
Swift Current	N. 50 21	W.107 33	4.50 a.m.			27.40	695.9	30.38	771.6	—10.5	—23.6	.....	1	1	9	4	5	2	2	.....	7	.....	.....	5	0.43	10.9
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.98	761.5	30.05	763.3	24.8	— 4.0	94	1	2	6	2	0	3	1	3	7	7209	11602	8	8.91	226.3
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.64	752.8	30.06	763.5	17.9	— 7.8	86	9	4	4	4	1	1	4	4	.....	.....	.....	8	5.47	138.9
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.92	734.5	30.06	763.5	16.5	— 8.6	76	3	1	4	9	1	4	4	2	3	.....	.....	8	3.81	96.8
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.94	760.5	30.04	763.0	27.1	— 2.7	84	2	3	7	3	.....	3	6	4	3	.....	.....	7	6.31	160.3
Sub-series.																									
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.92	760 0	30.12	765.0	30.2	— 1.0	95	1	3	4	7	6	5	.....	5	.....	.....	.....	5	5.02	127.5
Cape Colony																									
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	29.95	760.7	29.95	760.7	73.2	22.9	89	.....	.....	6	7	6	2	8	.....	2	.....	.....	3	0.86	21.8
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.89	759.2	.....	.....	80.4	26.9	41	.....	2	7	.....	.....	7	.....	.....	15	.....	.....	1	0.36	9.1
Springbok *c*	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.76	679.7	.....	.....	84.1	28.9	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.11	2.8
Chinese.																									
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	30.03	762.7	30.10	764.5	58.7	14.8	69	8	1	.....	1	.....	1	10	9	1	.....	.....	6	2.02	51.3
Sub-Series.																									
Zi-Ka-Wei	N. 31 12	E.121 26	8.06 p.m.	23	7	30.32	770.0	30.30	769.5	35.1	1.7	79	8	3	5	2	1	3	5	4	.....	.....	.....	4	1.23	31.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
DANISH.	° ′	° ′																									
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.61	752.2	29.69	754 2	32.4	0.2	88	1	2	4	5	6	1	5	7	.....	.....	.....	9	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.58	751.2	29.63	752.5	32.7	0.4	92	1	2	.....	7	6	5	5	5	.....	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.55	750.5	29.64	752.9	21.9	— 5.6	86	1	.....	2	2	4	2	9	7	4	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.41	746.9	29.47	748.5	34.0	1.1	79	3	3	5	2	1	3	1	9	4	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	20.59	749.2	29.62	752.4	32.9	0.5	91	.....	1	2	3	4	7	4	9	1	.....	.....	8	.....	.....
FRENCH.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.24	742.8	29.91	759.8	42.1	5.6	85	.....	6	1	5	1	3	1	.....	14	.....	.....	9	0.68	17.4
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.24	742.8	29.84	758 0	39.4	4.1	80	3	3	.....	10	8	1	.....	6	.....	.....	.....	.....	1.34	34.0
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.51	749.5	29.78	756.3	37.0	2.8	86	.....	5	3	8	8	2	.....	2	3	.....	.....	5	2.98	75.8
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.73	755.2	29.81	757.2	45.7	7.6	64	19	3	.....	.....	2	.....	4	3	.....	.....	.....	.....	2.18	55.3
Bar-sur-Seine *a*	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.24	742 6	29.82	757.5	36.0	2.2	84	3	4	2	6	6	6	2	1	.....	.....	.....	9	3.61	91.7
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.81	757.2	29.76	755.9	37.4	3.0	82	4	.....	.....	18	3	.....	.....	2	4	.....	.....	.....	3.61	91.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	28.90	734.0	29.80	756.9	39.2	4.0	84	.....	.....	.....	.....	18	1	4	8	.....	.....	.....	6	4.17	105.9
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.61	752.0	29.87	758.7	43.9	6.6	82	1	8	7	4	4	5	2	.....	.....	.....	.....	8	3.23	82.1
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.24	742.7	29.81	757.2	39.6	4.2	83	2	6	5	6	2	.....	6	4	.....	.....	.....	7	3.14	79.8
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.54	750.2	29.79	756 7	44.8	7.1	87	7	.....	5	7	3	1	1	4	3	.....	.....	7	4.50	114.2
Caen *a*	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.70	754.4	29.79	756.6	40.6	4.8	91	4	.....	9	8	4	3	.....	3	.....	.....	.....	.....	2.37	60.2
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.47	748.4	29.81	757.1	37.4	3.0	90	.....	1	3	13	8	4	1	1	.....	.....	.....	7	2.84	72.1
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.21	741.8	29.75	755.7	36.1	2.3	76	2	5	2	5	9	3	3	2	.....	.....	.....	7	6.42	163.2
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.44	722 4	29.83	757.7	39.9	4.4	73	2	7	6	4	7	1	1	3	.....	.....	.....	7	1.56	39.5
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	28.97	735.8	29.84	757.8	38.5	3.6	84	3	3	3	8	5	1	1	3	4	.....	.....	7	0.99	25.2
Commerecy *e*	N. 48 46	E. 5 35	0.22 p m.	797	243	.....	.....	.....	.....	32.9	0.5	93	.....	3	4	12	4	.....	2	1	.....	.....	.....	9	.....	.....
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.25	692.2	29.84	757.9	36.0	2.2	71	.....	.....	.....	.....	.....	.....	.....	.....	9	22	.....	.....	4.29	108.9
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.64	727.5	29.79	756.7	43.2	6.2	68	8	11	2	1	3	3	1	2	.....	.....	.....	4	3.88	98.6
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.13	740.0	29.94	760.4	34.5	1.4	80	4	3	1	4	1	.....	4	8	6	.....	.....	.....	2.62	66.6
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.19	716.1	29.80	756.8	34.9	1.6	89	2	3	4	17	2	.....	2	.....	1	.....	.....	6	3.88	98.5
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.27	743.5	29.85	758.3	45.0	7.2	71	.....	6	11	6	4	.....	1	3	.....	.....	.....	.....	5.62	142.7
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.71	754.7	29.83	757.6	45.1	7.3	84	1	9	7	5	2	5	.....	1	1	.....	.....	7	5.51	139.9
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.77	730.7	29.85	758.3	37.2	2.9	79	10	2	1	.....	7	6	4	1	.....	.....	.....	.....	1.52	38.7
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.48	748.8	29.82	757.3	39.6	4.2	85	7	3	5	2	10	2	.....	2	.....	.....	.....	7	2.45	62.2
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.51	749.5	29.78	756.3	48.0	8.9	57	.....	15	5	2	3	2	3	1	.....	.....	.....	.....	3.60	91.5
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	28.53	724.7	29.44	747.7	31.3	— 0.4	74	8	1	3	15	.....	1	1	2	.....	.....	.....	6	4.23	107.5
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.67	753.6	29.73	755.2	48.2	9.0	67	9	9	2	3	1	2	.....	2	3	.....	.....	5	1.06	26.9
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.48	596.5	.....	.....	.....	.....	.....	8	11	.....	2	3	5	.....	2	.....	.....	.....	2	11.80	299.6
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.01	736.9	29.84	758.0	34.2	1.2	85	3	3	9	5	.....	5	1	5	.....	.....	.....	.....	1.60	40.6
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.69	754.0	29.84	758.0	42.8	6.0	81	1	6	6	7	4	3	2	2	.....	.....	.....	7	3.55	90.2
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.69	754.1	29.74	755.4	53.4	11.9	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	5.50	139.8
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.73	755.2	29.85	758.1	48.6	9.2	58	3	16	1	1	2	1	5	1	.....	.....	.....	6	0.93	23.6
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	20.88	530.4	.....	.....	16.5	— 8.6	.....	.....	8	6	6	1	.....	1	5	4	.....	.....	.....	11.28	286.5
Privas	[mit.]	E. 4 36	0.18 p.m.	997	304	28.73	729.8	29.83	757.6	40.3	4.6	75	16	.....	1	.....	.....	.....	3	.....	5	.....	.....	.....	5.04	128.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	24.82	630.4	.....	.....	24.1	— 4.4	96	3	4	11	9	1	1	1	.....	.....	.....	.....	8	6.79	172.5
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.83	757.6	29.86	758.4	45.1	7.3	81	3	4	4	8	.....	9	.....	3	.....	.....	.....	6	2.76	70.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.54	750.2	29.82	757.4	42.3	5.7	84	1	6	8	5	2	3	2	4	.....	.....	.....	.....	2.35	59.6
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.68	703.1	29.87	758.7	36.3	2.4	81	10	6	.....	2	5	.....	1	6	1	.....	.....	8	3.65	92.8
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.70	754.3	29.76	756.0	39.6	4.2	80	4	8	6	5	6	1	1	.....	.....	.....	.....	6	2.92	74.1
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.61	752.0	29.78	756.5	38.8	3.8	79	3	4	1	8	12	.....	3	.....	.....	.....	.....	7	1.75	44.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.19	741.4	29.91	759.7	43.3	6.3	80	.....	18	5	2	.....	4	.....	1	1	.....	.....	9c	1.30	34.6
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.67	753.5	29.82	757.3	41.5	5.3	80	2	1	7	10	6	2	2	1	.....	.....	.....	.....	2.80	71.0
Sub-Series.																											
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.77	756.1	29.92	759.9	45.9	7.7	78	5	2	9	5	1	1	5	3	.....	.....	.....	8	8.39	213.0
GERMAN.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.32	719.4	29.83	757.7	32.4	0.2	76	.....	1	4	9	1	4	.....	4	8	.....	.....	8	1.24	31.5
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	28.93	734.8	29.72	755.0	32.2	0.1	81	3	2	3	9	2	6	.....	3	3	.....	.....	7	1.42	36.0
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.59	751.5	29.75	755.6	33.1	0.6	77	.....	4	4	7	5	3	8	.....	.....	.....	.....	7	1.46	37.2
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.24	742.8	29.79	756.7	31.3	— 0.4	83	2	3	3	6	4	5	5	1	2	.....	.....	9	2.09	53.0
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.34	745.3	29.82	757.5	38.7	3.7	81	.....	.....	.....	.....	22	.....	2	1	6	.....	.....	9	3.04	77.2
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	28.99	736.3	29.72	755.0	33.1	0.6	84	.....	.....	.....	8	11	1	.....	1	10	.....	.....	7	1.74	44.1
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.37	746.1	29.82	757.3	35.1	1.7	77	1	.....	3	13	4	2	5	2	1	.....	.....	9	1.32	33.5
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.37	720.7	29.84	757.9	33.6	0.9	79	4	1	5	11	.....	2	1	7	.....	.....	.....	8	2.14	54.3
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.59	751.6	29.72	754.9	32.4	0.2	91	2	.....	2	10	3	6	6	.....	2	.....	.....	4	2.82	71.6
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.68	753.9	29.72	754.8	33.4	0.8	88	2	.....	2	10	4	3	6	3	1	.....	.....	8	2.62	66.5
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.32	741.8	29.77	756.2	32.9	0.5	84	.....	1	5	8	7	6	.....	4	.....	.....	.....	7	1.29	32.7
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.76	755 8	29.84	757.8	35.2	1.8	89	2	2	3	1	6	8	6	3	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	27.94	709.6	29.80	756.8	32.4	0.2	78	2	4	7	4	.....	2	1	1	10	.....	.....	8	1.06	26.9
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.74	755 3	29.77	756.2	31.1	— 0.5	88	.....	2	3	4	5	11	5	1	.....	.....	.....	9	1.48	37.7
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.25	742.9	29.78	756.4	35.1	1.7	87	2	1	10	9	5	.....	.....	.....	4	.....	.....	9	3.16	80.3
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	28.89	733.9	29.83	757.7	35.1	1.7	80	1	2	2	14	2	.....	.....	10	.....	.....	.....	8	1.16	29.5
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.65	753.0	29.71	754.5	31.6	— 0.2	92	1	.....	5	5	5	10	4	1	.....	.....	.....	8	1.39	35.3
GREEK.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.49	749.0	29.86	758.4	57.6	14.2	76	1	2	5	4	7	10	1	1	.....	.....	.....	5	6.54	166.1
INDIAN.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.94	760.6	29.94	760.6	73.0	22.8	36	.....	2	7	5	1	1	8	7	.....	.....	.....	3	0.03	0.8
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.48	748.9	29.91	759.7	77.6	25.3	23	3	9	5	3	6	1	1	3	.....	.....	.....	3	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.91	759.7	29.89	759.1	76.7	24.8	65	7	18	6	.....	.....	.....	.....	.....	.....	.....	.....	4	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.06	712.8	29.85	758.1	79.6	26.4	28	.....	3	6	6	1	2	3	10	.....	.....	.....	3	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.36	695.0	29.81	757.2	77.7	25.4	37	.....	.....	8	6	2	4	10	1	.....	.....	.....	2	0	0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.30	744.1	30.01	762.1	58.9	14.9	70	4	3	3	1	3	2	.....	2	13	.....	.....	5	2.31	58.7
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.08	738.6	29.97	761.2	62.1	16.7	68	1	.....	11	.....	2	5	1	.....	11	.....	.....	5	3.08	78.2
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.43	747.6	29.97	761.2	67.9	19.9	53	3	4	10	3	.....	1	3	5	2	.....	.....	3	0.43	10.9
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.91	734.2	29.90	759.4	77.0	25.0	39	0	1	1	3	3	4	3	.....	14	.....	.....	4	0.02	0.5
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.61	726.8	29.94	760 4	71.2	21.8	47	4	4	.....	.....	3	5	1	1	13	.....	.....	3	0	0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.66	753 2	30.00	762.0	64.8	18.2	57	14	9	1	.....	.....	2	2	3	.....	.....	.....	2	0.70	17.8
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.69	754.1	29.96	761.1	67.5	19.7	59	2	10	2	.....	.....	1	4	.....	12	.....	.....	2	0.12	3.0
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.83	757.7	29.97	761.3	66.9	19.4	67	1	3	20	1	2	1	3	.....	.....	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.94	709.8	29.95	760.8	64.6	18.1	46	12	15	2	.....	.....	.....	1	.....	.....	.....	.....	3	0.06	1.5
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.97	761 3	29.94	760.4	68 6	20.3	67	4	3	4	3	.....	.....	1	1	15	.....	.....	2	1.28	32.5
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.86	758.5	29.94	760.4	67.7	19.8	63	.....	.....	.....	2	.....	.....	.....	1	28	.....	.....	0	0.01	0.2
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.67	753.6	29.97	761 2	61.0	16.1	89	1	.....	.....	.....	1	2	7	18	2	.....	.....	5	0.56	14.2
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.53	724.7	29.96	761.0	67.8	19.9	50	5	10	1	2	4	5	3	1	.....	.....	.....	4	0.58	14.7
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28 40	721.4	29.79	756.6	83.0	28.3	35	3	1	.....	2	.....	11	12	2	.....	.....	.....	3	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.68	753.8	29.89	759 1	81.7	27.6	62	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	0.27	6.9
ITALIAN.																											
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.32	744.6	29.74	755.4	42.3	5.7	73	1	1	.....	.....	.....	3	7	4	15	.....	.....	6	7.58	192.6
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.27	743.5	29.82	757.4	35.2	1.8	84	1	3	1	1	2	7	11	5	.....	.....	.....	8	7.09	180.1
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.66	753.3	29.77	756.2	38.3	3.5	79	10	4	1	2	1	.....	1	8	4	.....	.....	6	5.01	127.3
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	28.81	731.9	29.77	756.2	34.3	1.3	78	.....	3	15	3	1	.....	1	8	.....	.....	.....	6	2.34	59.3
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.55	750 5	29.74	755.5	46.4	8.0	62	14	5	7	3	1	.....	.....	.....	1	.....	.....	6	5.78	146.8
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.73	755.1	29.78	756.4	42.6	5.9	73	4	2	.....	2	3	5	.....	15	.....	.....	.....	7	5.12	130.1
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.50	749.2	29.76	755.8	45.7	7.6	67	6	7	3	1	3	2	5	4	.....	.....	.....	8	3.24	82.3
Leghorn *a*	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.68	753.8	29.76	756.0	48.9	9.4	64	*d*3	.....	4	.....	4	1	.....	15	.....	.....	.....	7	1.64	41.6
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.56	750 9	29.74	755.5	50.4	10.2	68	13	3	2	.....	6	6	.....	1	.....	.....	.....	7	3.06	77.6
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	28.89	733.8	29.80	756.9	47.3	8.5	67	.....	.....	.....	6	7	.....	6	8	4	.....	.....	7	8.97	227.9
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.52	749.7	29.77	756.1	56.8	13.8	65	2	4	1	2	.....	10	2	8	2	.....	.....	7	8.56	217.4
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.72	755.0	29.77	756.1	56.1	13.4	69	2	1	5	5	1	6	9	2	.....	.....	.....	6	4.78	121.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
ITALIAN—Con.																											
Sub-Series.	° ′	° ′																									
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	21.86	555.3	.....	.....	15.6	— 9.1	81	.....	.....	.....	13	2	1	3	12	.....	.....	.....	5	3.40	86.4
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	21.79	553.4	.....	.....	17.6	— 8.0	74	3	4	8	6	2	3	2	3	.....	.....	.....	5	.....	.....
JAPANESE.																											
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.89	759.2	29.91	759.7	28.8	— 1.8	80	2	8	8	.....	.....	3	3	.....	7	.....	.....	9	7.08	179.2
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.85	758.3	29.88	758.9	25.4	— 3.7	76	1	3	15	4	3	.....	1	.....	4	8708	14011	7	3.03	77.1
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	14	30.01	762.4	30.01	762.2	33.3	0.7	79	1	.....	1	6	9	.....	.....	.....	14	3482	5603	8	8.44	214.5
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.01	762 1	30.03	762.7	33.7	0.9	80	6	13	2	2	.....	.....	1	3	4	.....	.....	4	2.08	52.9
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.84	757 9	29.84	757.9	25.7	— 3.4	84	6	6	11	.....	1	.....	1	2	4	9444	15199	7	1.43	36.0
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.90	759.5	29.98	701.5	36.7	2.6	67	1	8	20	.....	.....	.....	1	1	.....	.....	.....	3	1.48	37.5
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.10	764.5	30.08	764.0	35.8	2.1	80	19	1	6	1	.....	.....	1	1	2	3517	5659	5	0.85	21.6
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.93	760.2	30.02	762.5	34.0	1.1	82	.....	3	5	4	4	9	1	.....	5	5791	9320	9	11.22	284.4
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.15	765.9	30.13	765.3	39.0	3.9	81	15	8	.....	.....	.....	.....	2	1	5	2963	4769	5	2.20	55.8
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.89	759.3	30.05	763.3	33.0	0.6	79	10	7	8	1	.....	1	1	2	2858	4600	6	1.84	46.5
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.07	763.7	30.05	763.3	39.1	3.9	74	5	11	7	.....	.....	1	4	.....	3	5863	9436	4	2.12	53.8
Minasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.11	764.9	30.11	764.8	39.7	4.3	76	1	3	25	.....	.....	2	.....	.....	.....	7050	11356	2	0.58	14.6
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.77	756.2	29.87	758.7	29.0	— 1.7	70	1	2	14	10	1	.....	1	.....	2	3204	5156	3	1.68	42.7
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.97	761.2	30.15	765.8	38.4	3.6	76	13	8	1	1	.....	1	2	.....	5	4051	6520	5	2.14	54.0
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.70	754.3	29.74	755.4	25.1	— 3.8	68	2	3	10	3	3	.....	1	.....	9	6104	9823	3	1.77	45.0
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.93	760.2	29.97	761.2	34.5	1.4	76	2	.....	16	2	4	6	1	.....	.....	9023	14521	8	6.32	160.3
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.90	759.6	29.90	759 4	31.2	— 0.4	82	7	8	11	.....	3	.....	.....	2	8686	13979	4	1.04	26.2
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.88	759.0	29.92	760.0	38.8	3.8	67	1	.....	3	6	.....	.....	12	9	.....	302	485	4	1.74	44.3
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.03	702 7	30.05	763.3	36.3	2.4	75	7	4	13	1	.....	.....	2	4	7231	11637	4	1.17	29.6
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.07	763.8	30.05	763.3	36.4	2.4	80	2	1	20	3	1	.....	1	2	1	6415	10323	9	6.61	168.0
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.00	762.0	30.12	765.0	38.8	3.8	71	.....	6	9	3	1	1	1	.....	10	.....	.....	6	2.25	57.1
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.71	754.7	29.76	755.9	24.0	— 4.4	84	6	3	6	3	2	2	6	2	1	.....	.....	8	2.78	70.8
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.75	755.6	29.81	757 2	19.6	— 7.0	76	1	5	2	.....	15	3	.....	.....	5	4117	6624	5	3.20	81.0
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.88	758.9	29.93	760.2	35.5	1.9	66	10	13	1	2	.....	5	.....	.....	.....	5297	8524	3	1.46	37.0
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.02	762.6	30.05	763.3	38.1	3 4	68	7	9	3	.....	.....	.....	4	4	4	4156	6689	5	1.58	40.5
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.74	755.4	29.87	758.7	82.4	28.0	64	1	2	.....	.....	.....	1	25	2	.....	.....	.....	6	2.13	54.1
MEXICAN.																											
Guanajuato	N. 21 01	W.101 10	5.15 a.m.	6762	2061	23.65	600.7	29.83	757.7	45.3	7.4	67	.....	4	.....	6	1	10	1	9	.....	.....	.....	3	0.09	2.3
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.33	618.0	30.09	764.3	45.5	7.5	76	10	15	1	4	1	.....	.....	.....	.....	.....	.....	7	0.08	2.0
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.73	755.1	29.94	760.5	68.2	20.1	78	1	8	.....	.....	.....	9	5	8	.....	.....	.....	3	Inap.	Inap.
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.05	585.5	30.10	764.5	44.8	7.1	68	a	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	2	0.03	0.8
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.37	593.7	30.08	764.0	47.7	8.7	63	1	5	1	3	2	.....	.....	2	17	.....	.....	3	0	0
NETHERLANDS.																											
Flushing *a*	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.69	754 0	29.71	754 5	37.2	2.9	.....	4	1	1	9	8	.....	3	4	.....	.....	.....	.....	2.16	54.9
Groningen *a*	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.60	751.8	29.67	753.7	33.3	0.7	.....	1	1	6	6	3	4	3	4	2	.....	.....	.....	3.22	81.8
Helder *a*	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.63	752.7	29.65	753.2	36.1	2.3	.....	4	.....	2	9	5	1	6	3	.....	.....	.....	.....	3.79	96.3
Hellevoetsluis *a*	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.63	752 7	29.65	753.2	35.4	1.9	.....	1	1	4	7	4	4	3	3	3	.....	.....	.....	2.10	53.2
Utrecht *a*	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.05	753.2	29.72	754.9	35.4	1.9	.....	3	2	2	7	8	2	4	2	.....	.....	.....	3	3 91	99.2
Sub-Series.																											
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.83	757.6	79.2	26.2	87	10	6	3	2	4	.....	.....	.....	6	.....	.....	8	9.18	233.
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.46	748.3	29.56	750.9	33.3	0.7	80	1	2	1	2	10	6	2	.....	7	.....	.....	6	4.47	113.5
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.50	749.3	29.59	751.5	27.3	— 2.6	69	1	.....	2	.....	6	8	9	.....	5	.....	.....	5	0.70	17.9
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.50	749.4	29.69	754.2	28.0	— 2.2	83	7	.....	.....	2	4	4	1	9	4	.....	.....	9	0.98	24.9
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.62	752.3	29.71	754.5	20.5	— 6.4	.....	.....	2	.....	5	6	7	3	5	3	.....	.....	6	1.58	40.0
PORTUGUESE.																											
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.10	764.4	30.15	765.8	62.1	16.7	62	4	2	1	9	2	2	4	4	3	.....	.....	5	3.26	82.9
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.71	754.7	30.04	763.0	51.4	10.8	69	10	3	6	3	4	.....	.....	5	.....	.....	.....	5	3.93	99.9
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.26	768.5	30.31	769.8	59.7	15.4	75	3	2	4	.....	6	1	2	12	1	.....	.....	3	3.27	83.0
Salut Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.99	761.7	29.96	761 0	74.5	23.6	61	25	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	6	0.34	8.7
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.02	711.8	29.77	756.1	81.7	27.6	65	1	9	5	3	4	2	.....	1	6	.....	.....	6	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.04	636.0	29.89	759.1	32.7	0.4	87	1b	2	8	9	4	1	3	.....	1	.....	.....	6	9.32	236.8
RUSSIAN.																											
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.86	758.5	29.93	760.2	6.4	—14.2	84	.....	3	3	5	9	3	5	2	1	.....	.....	9	0.39	9.9
Ashurada	N. 36 54	E. 53 55	3.36 p.m.	79	24	30.35	770.8	30.23	767.8	47.7	8.7	79	8	4	5	2	.....	.....	5	6	1	.....	.....	5	1.76	44.8
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.30	771.2	30.28	769.1	24.4	— 4.2	80	1	2	1	2	3	8	9	5	.....	.....	.....	7	0.42	10.6
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.26	768.5	30.20	767.1	41.9	5.5	78	13	.....	.....	5	4	1	1	2	5	.....	.....	7	0.42	10.7
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.80	757.0	30.38	771.6	6.1	—14.4	85	.....	.....	1	20	.....	.....	1	2	9	.....	.....	7	0.92	23.5
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	29.62	752.2	29.91	759.7	19.8	— 6.8	88	1	2	.....	3	10	6	6	3	.....	.....	.....	9	1.97	50.0
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.12	739.5	30.19	766.8	13.1	—10.5	82	.....	1	14	10	1	1	.....	.....	4	.....	.....	7	0.10	2.6
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.60	751.8	30.08	764.0	29.8	— 1.2	85	1	2	2	3	3	13	4	2	1	.....	.....	9	1.35	34.3
Irkutsk	N. 52 16	E.104 16	6.57 p.m.	1535	468	28.73	729.7	30.55	776.0	— 1.3	—18.5	88	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0.57	14.4
Kasallinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.04	763.1	30.22	767.6	12.6	—10.8	83	8	4	3	.....	.	5	5	6	.....	.....	.....	6	0.08	2.0
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	29.93	760.3	30.26	768.6	12.0	—11.1	94	1	2	2	6	13	4	1	2	.....	.....	.....	9	0.28	7.2
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.82	757.4	29.92	760.0	5.9	—14.5	88	2	4	7	2	2	2	1	1	10	.....	.....	7	0.43	10.9
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.01	762 2	30.03	762 7	41.2	5.1	84	1	1	.....	.....	9	4	9	2	5	.....	.....	8	0.18	4.7
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.34	745.1	30.02	762.5	26.8	— 2.9	89	1	2	4	4	5	12	1	1	.....	.....	.....	8	1.79	45.4
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	29.62	752.3	30.19	766.8	17.4	— 8.1	93	1	4	3	5	5	4	2	2	5	.....	.....	7	1.03	26.2
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.52	749.8	30.16	766.1	23 2	— 4.9	84	.....	1	2	5	4	5	12	1	1	.....	.....	8	0.60	15.2
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.75	755.6	29.80	756.9	28.8	— 1.8	87	.....	2	1	5	4	11	7	1	.....	.....	.....	9	2.00	50.7
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	30.02	762.6	30.25	768.3	29.5	— 1.4	79	1	1	2	5	4	4	12	1	1	.....	.....	8	0.50	12.0
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.58	751.3	30.13	765.3	17.8	— 7.9	87	4	1	3	4	10	6	2	.....	1	.....	.....	8	1.32	33.6
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	29.95	760 8	30.02	762.5	34.9	1.6	84	.....	1	2	3	5	3	5	4	8	.....	.....	6	1.12	28.5
Nikolaievsk *d*	N. 53 08	E.140 45	9.23 p.m.	59	18	29.91	759.7	30.02	762.5	— 8.1	—22.3	76	.....	2	17	.....	.....	.....	.....	.....	8	.....	.....	4	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	29.65	753.1	30.18	766.0	14.0	—10.0	82	1	2	.....	11	5	9	1	1	1	.....	.....	8	1.52	38.6
Perm	N. 58 01	E. 56 16	3.45 p.m.	344?	105?	29.72	754.9	30.16	766.1	10.0	—12.2	85	.....	1	4	11	5	3	.....	.....	7	.....	.....	9	1.58	40.0
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.93	760.1	30.30	769.6	21.4	— 5.9	82	5	2	2	5	.....	.....	1	15	1	.....	.....	7	0.48	12.1
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	29.69	754.0	29.95	760.7	12.4	—10.9	82	.....	6	6	7	.....	6	1	2	3	.....	.....	8	1.79	45.5
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.37	746.0	29.91	759.7	27.1	— 2.7	87	1	3	.....	4	1	9	7	2	4	.....	.....	9	1.25	31.7
Poti	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.01	762 3	30.03	762 7	52.0	11.1	77	1	.....	1	1	1	1	13	.....	13	.....	.....	3	2.42	61.6
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.88	758.9	29.94	760.5	16.2	— 8.8	88	.....	5	1	3	9	9	1	3	.....	.....	.....	9	1.15	29.3
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.76	756.0	29.98	761.5	48.2	9.0	72	6	2	4	6	6	2	.....	2	3	.....	.....	7	1.09	27.6
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.38	746.2	29.98	761.5	24.6	— 4.1	79	.....	1	.....	3	4	13	7	3	.....	.....	.....	8	1.28	32.6
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.51	724.2	30.26	768.0	34.3	1.3	78	3	2	5	1	5	.....	2	.....	13	.....	.....	8	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.72	729.5	30.17	766.3	43.2	6.2	53	6	3	.....	.....	4	12	4	1	1	.....	.....	6	0.40	10.2
Viatka	N. 58 36	E. 49 41	3.19 p.m.	518	177	29.41	747.0	30.13	765.3	10.9	—11.7	94	2	1	9	6	7	.....	.....	6	.....	.....	.....	9	1.68	42.7
Yeniselsk	N. 58 27	E. 92 06	6.08 p.m.	262?	80?	29.97	761.3	30.33	770.4	1.0	—17.2	82	.....	1	1	1	3	5	8	.....	12	.....	.....	8	1.41	35.7
SCOTTISH.																											
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	.....	.....	29.63	752.6	.....	.....	.....	3	4	8	8	1	2	2	3	.....	.....	.....	8	3.61	91.7
SPANISH.																											
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.69	754.1	29.86	758.4	48.9	9.4	65	4	2	8	5	6	2	1	3	.....	.....	.....	5	0.51	13.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.88	758.9	29.94	760.4	48.6	9.2	76	2	11	1	2	3	3	.....	1	8	1967	3165	8	10.48	266.2
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	26.96	684.8	30.03	762.7	36.0	2.2	86	1	4	5	6	10	.....	.....	.....	5	5296	8523	8	3.82	97.1
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.70	703.5	29.97	761.2	43.5	6.4	74	3	4	4	4	1	.....	.....	3	12	7377	11872	6	2.76	70.0
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.06	738.0	29.99	761.8	46.4	8.0	85	5	3	.....	3	2	1	.....	11	6	5324	8568	9	8.52	216.5
Sub-Series.																											
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.99	761.7	30.01	762.2	63.6	17.6	81	4	6	.....	1	4	5	11	.....	.....	.....	.....	5	2.69	68.3
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.93	760.2	29.91	759.8	77.2	25.1	81	4	1	.....	3	2	8	7	6	.....	4110	7612	2	0.12	3.0
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.97	761.4	30.06	763.5	54.0	12.2	67	2	4	8	2	2	.....	2	1	10	.....	.....	4	2.76	70.4
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.94	760.5	29.97	761.3	73.6	23.1	81	.....	.....	2	2	6	5	1	4	11	.....	.....	5	2.66	67.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for January, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.74	755.4	29.83	757.7	4.3	—15.4	99	3	1	3	1	7	3	1	4	8	.....	.....	7	1.42	36.2
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.71	754.7	29.81	757.2	13.1	—10.5	92	4	2	2	5	2	1	1	7	7	.....	.....	8	1.89	48.1
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.69	754.0	29.78	756.4	20.1	— 6.6	92	2	1	....	3	2	1	2	5	15	.....	.....	7	0.99	25.1
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.54	750.3	29.75	755.7	27.5	— 2.5	86	2	2	1	6	6	.....	6	7	1	.....	.....	8	1.05	26.7
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.63	752.7	29.72	755.0	31.1	— 0.5	88	3	1	4	7	2	3	10	1	.....	.....	.....	8	2.17	55.2
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.61	752.1	29.74	755.3	25.7	— 3.5	90	3	4	.....	5	7	1	2	9	.. ..	.....	.....	8	0.85	21.6
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.95	760.6	52.3	11.3	67	7	1	.....	8	6	3	4	2	.....	.....	.....	7	1.73	44.0
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	29.90	759 4	57.7	14.3	.....	.....	2	1	8	10	8	2	.....	.....	.....	.....	6	7.44	189.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.99	761.7	63.5	17.5	67	1	.....	4	21	.....	1	.....	4	.....	.....	.....	7	5.83	148.0
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.93	760.2	30.00	762.0	21.9	— 5.6	83	2	9	3	1	1	2	2	10	1	8700	14001	7	9.01	228.8
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.91	759.7	30.02	762.5	18.8	— 7.3	84	11	9	4	3	1	1	.....	1	1	6188	9958	7	4.65	118.1
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.42	594.9	30.05	763.3	10.5	—11.9	94a	1	19	2	4	.....	3	.....	2	.....	23889	38445	4	4.85	123.2
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.89	759.2	30.03	762.7	22.8	— 5.1	74	5	5	11	1	.....	3	1	5	.....	9324	15004	6	7.08	179.8
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.98	761.5	30.00	762.0	28.8	— 1.8	81	9	9	3	1	.....	4	....	5	.....	14124	22730	6	7.04	178.8
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.00	762.0	30.04	763.0	24.5	— 4.2	83	6	5	4	.....	.....	2	3	8	3	5655	9101	6	7.39	187.7
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.90	759.4	30.01	762.2	22.2	— 5.4	83	7	5	7	.....	.....	1	2	9	.....	7809	12567	6	3.53	89.7
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.01	762.2	30.10	764.5	17.5	— 8.1	80	6	10	.....	2	4	1	2	5	1	5417	8718	7	3.66	93.0
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.88	758.9	30.05	763.3	26.3	— 3.2	78	6	11	3	2	1	.....	3	5	.....	9317	14994	5	5.02	127.5
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.94	760.5	30.06	763.5	26.6	— 3.0	76	8	10	4	1	.....	.....	2	6	.....	9000	14484	6	3.69	93.7
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.05	763 3	30.07	763.8	27.2	— 2.7	78	5	6	9	.....	1	1	5	4	.....	14649	23575	5	4.47	113.5
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.04	763.0	30.04	763.0	26.6	— 3.0	83	5	10	4	2	.....	1	2	5	2	8123	13072	6	3.17	80.5
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.04	763.0	30.08	764.0	26.2	— 3.2	78	10	6	7	....	1	.....	2	4	1	4789	7707	7	4.48	113.8
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.99	761.7	30.09	764 3	25.2	— 3.8	87	12	8	4	.....	1	2	2	1	1	4708	7577	6	5.01	127.3
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.06	763 5	30.04	763.0	30.5	— 0.8	77	10	12	3	.....	.....	2	1	3	.....	11228	18069	5	4.03	102.4
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.06	763.5	30.06	763.5	32.5	0.3	82	7	10	3	4	.....	2	1	2	2	10435	16793	5	2.99	75.9
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.37	746.0	30.07	763.8	26.1	— 3.3	82	2	4	10	3	2	1	2	7	.....	3182	5121	6	4.56	115.8
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.04	763.0	30.05	763.3	31.4	— 0.3	84	11	3	4	2	.....	3	.....	2	6	5176	8330	5	2.93	74.4
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.06	763.5	30.05	763.3	35.8	2.1	81	6	7	3	3	2	.....	1	8	1	11943	19220	6	6.23	158.2
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.05	763.3	30.04	763.0	37.9	3.3	86	13	6	4	1	1	1	1	4	.....	10913	17562	5	7.17	182.1
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.06	763.5	30.04	763.0	36.6	2.0	86	9	10	2	2	.....	1	1	6	.....	12599	20276	6	4.86	123.4
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.02	762.5	30.04	763.0	35.5	1.9	78	11	3	5	.....	1	1	1	7	2	6669	10732	6	2.14	54.4
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.02	762.5	30.05	763.3	37.4	3.0	78	9	6	4	.....	2	.....	3	5	2	4811	7742	8	3.90	99.1
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	868	246	29.22	742.2	30.08	764.0	30.0	— 1.1	82	6	4	1	4	2	.....	5	6	3	4642	7470	5	4.94	125.5
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.03	762.7	30.06	763.5	38.7	3.7	82	7	4	7	.....	1	1	2	6	3	5975	9616	4	5.64	143.3
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.92	760.0	30.08	764.0	34.2	1.2	89	6	4	6	4	2	.....	.....	3	2	4210	6775	6	3.69	93.7
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.01	762.2	30.07	763.8	40.5	4.7	86	6	4	6	4	2	2	3	4	.....	6660	10718	5	2.92	74.2
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.05	763.3	30.06	763.5	45.7	7.6	88	3	5	9	3	2	3	1	4	1	5865	9439	6	2.81	71.4
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.04	763 0	30.02	762.5	45.7	7.6	91	4	8	3	.....	3	1	5	5	2	6892	11091	5	1.86	47.2
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.06	763.5	30.03	762.7	61.9	16.6	86	5	6	.....	.....	3	3	2	12	.....	8639	13903	7	1.45	36.8
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.06	763.5	30.05	763.3	48.6	9.2	85	5	9	5	2	2	2	1	3	5118	8236	6	4.77	121.2
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.88	733.5	30.08	764.0	32.1	0.1	80	3	9	5	1	2	1	7	3	.....	8857	14254	6	7.33	186.2
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.06	763.5	30.05	763 3	43.4	6.3	80	8	6	3	.....	3	1	6	4	.....	5812	9353	6	5.30	134.6
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.07	763.8	30.07	763.8	40.5	4 7	87	9	11	2	1	1	3	.....	4	...	6820	10976	7	6.12	155.4
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.86	758.4	30.08	764.0	37.4	3.0	83	5	6	3	.....	2	1	6	5	3	5447	8766	6	6.69	169.9
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.89	759.2	30.09	764.3	34.3	1.3	85	5	7	.....	1	1	7	.....	2	8	3805	6123	7	7.84	199.1
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.05	763.3	30.07	763.8	42.8	6.0	87	6	6	3	1	... ...	3	7	5	.....	6205	9986	6	7.53	191.3
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.90	759 4	30.12	765.0	32.9	0.5	76a	8	4	5	.....	3	7	2	2	.....	.....	.....	6	3.87	98.3
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.64	752 8	30.14	765.5	22.7	— 5.2	81	10	5	.....	.....	.....	1	13	1	1	5497	8846	7	2.52	64.0
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.80	756.9	30.09	764.3	25.7	— 3.5	90	6	8	2	4	1	3	4	1	2	4630	7451	7	3.97	100.8
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.10	764.5	30.10	764.5	43.6	6.4	90	4	5	4	.....	3	3	5	6	1	9052	14568	5	3.45	87.6
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.09	764.3	30.08	764.0	42.4	5.8	87	13	.....	1	2	2	3	2	6	2	12203	19638	4	2.51	63.8
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.58	751.3	30.13	765.3	34.0	1.1	83	3	8	1	1	7	.....	3	8	.....	7948	12791	5	3.65	92.7
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.29	744.0	30.09	764 3	37.8	3.2	79	12	2	2	1	2	.....	1	10	1	6955	11193	5	0.75	19.0
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	30.05	763.3	30.06	763.5	46.5	8.1	89	11	6	1	2	6	1	.....	2	2	6661	9754	4	1.81	46.0
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.93	760.2	30.09	764.3	43.9	6.6	77	13	1	.....	..	.....	1	4	2	10	3518	5662	5	1.07	27.2
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.28	743 7	30.11	764.8	29.6	— 1.3	89	3	6	3	4	1	3	4	7	.....	4819	7755	7	6.78	172.2
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.05	737.9	30.10	764.5	28.4	— 2.0	87	5	1	5	5	1	.....	4	6	4	4437	7141	8	6.12	155.4
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.77	756.1	30.10	764.5	26.4	— 3.1	84	1	11	6	1	1	7	2	2	..	4928	7931	7	4.55	115.6
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.49	749 0	30.07	763.8	25.2	— 3.8	85	4	4	9	1	1	1	11	.....	.....	5329	8576	7	5.18	131.6
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.50	749.3	30.09	764.3	28.4	— 2.0	80	1	1	7	5	2	5	5	.....	.....	6745	10855	7	4.64	117.9
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.09	738.9	30.08	764 0	19.3	— 7.1	85	2	3	5	5	3	6	2	5	.....	5682	9144	8	4.65	118.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.23	742.4	30.07	763 8	19.6	— 6.9	90	3	4	5	3	5	6	2	3	.....	5296	8523	8	4.02	102 1
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.40	746.7	30.09	764.3	22.3	— 5.4	84	1	8	3	3	1	5	2	4	4	6055	9744	8	2.83	71.9
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	247	29.18	741.2	30.08	764.0	21.3	— 5.9	81	3	4	4	3	6	5	4	1	1	6042	9724	8	4.36	110.7
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.13	739.9	29.98	761 5	25.4	— 3.7	86	.....	3	6	3	6	3	2	8	.....	5552	8935	8	3.21	81.5
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.34	745.2	30.04	763.0	19.8	— 6.8	88	1	2	9	5	5	5	1	2	1	9724	15649	9	2.58	65.5
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.26	743.2	30.04	763 0	20.9	— 6.2	87	.....	3	6	4	5	4	6	3	.....	9181	14775	8	4.22	107.2
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.07	753.6	30.05	763 3	17.3	— 8.2	90	5	6	4	...	6	9	1	.....	.....	9906	15942	9	3.29	83.6
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.27	743 4	30.03	762.7	21.8	— 5.7	86	1	7	2	7	9	2	3	.....	.....	9303	14971	8	4.80	121.9
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.36	745.7	30.07	763 8	20.7	— 6.3	79	3	5	4	5	7	4	2	1	.....	10516	16924	8	2.28	57.9
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.28	743 7	30.05	763.3	21.6	— 5.8	84	4	5	4	3	9	3	2	1	..	8407	13530	8	3.35	85.1
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.33	745 0	30.06	763.5	18.9	— 7.3	81	3	4	6	6	4	2	1	4	1	5247	8444	8	2.79	70.9
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.30	744.2	30.05	763.3	22.8	— 5.1	84	4	6	5	5	4	1	3	3	.....	7551	12152	8	1.92	48.8
Upper lake region																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.35	745 5	30.06	763.5	12.9	—10.6	84	4	4	10	2	3	3	2	3	.....	7625	12271	7	5.16	131.1
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.38	746.2	30.10	764.5	9.6	— 12.4	82	7	8	2	4	.....	.....	1	8	1	7147	1 470	8	4.80	121.9
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.34	745.2	30.04	763.0	19.4	— 7.0	86	4	4	3	1	2	8	7	2	.....	8311	13423	8	2.62	66.5
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.36	745.7	30.07	763.8	12.3	—10.9	73	3	5	2	1	3	4	2	9	2	8156	13126	7	2.25	57.1
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.32	744.7	30.10	764.5	12.6	—10.8	90	6	6	10	2	3	1	1	2	.....	8328	13402	9	3 14	79.8
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.32	744.7	30.05	763.3	18.6	— 7.4	85	1	6	6	4	6	3	1	2	2	7287	11727	8	2.19	55.6
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.33	745.0	30.07	763.8	19.1	— 7.2	84	3	5	4	9	4	2	3	1	....	7498	12067	8	3.56	90.4
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.28	743 7	30.08	764.0	14.2	— 9.9	91	4	6	9	4	2	1	1	3	1	9285	14942	8	5.02	127.5
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.39	746.5	30.19	766.8	1.6	—16.9	84	1	15	1	4	.....	4	.....	3	3	6425	10340	7	2.26	57.4
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.20	741.7	30.17	766 3	0.1	—17.7	90	.....	9	6	1	1	4	3	3	4	4633	7456	5	1.76	41.7
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.30	744 2	30.12	765.0	9.0	—12.8	77	8	6	3	1	6	4	.....	2	1	5519	8882	7	3 44	87.4
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.43	747.5	30.13	765.3	10.0	—12.2	83	5	4	6	4	1	3	3	5	.....	6805	10951	6	2.22	56.4
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.19	741.4	30.15	765.8	7.3	—13.7	81	11	4	.....	3	1	2	2	4	4	4557	7334	6	3 47	88.1
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.37	746 0	30.12	765.0	9.4	—12.0	78	4	9	2	.....	3	4	.....	3	6	3356	5401	6	3.17	80.5
Keokuka	N. 40 22	W. 91 26	5.51 a.m.	618	188	29.42	747.3	30.10	764.5	11.4	—11.4	89	2	7	6	1	3	2	7	3	.....	1442	10367	6	2.08	52.8
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.72	754.9	30.10	764.5	23.1	— 4.9	82	3	8	5	.....	4	4	4	3		6499	10459	6	3.82	97.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for January, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.																												
U. Miss. val.—Con.	° ′	° ′																										
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.41	747.0	30.11	764.8	19.4	—7.0	75	3	7	3	3	4	6	1	3	1	7895	12706	6	2.19	55.6
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.48	748.8	30.11	764.8	21.7	—5.7	82	1	12	4	1	6	4	.....	3	.....	9057	14576	5	3.11	79.0
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.24	742.7	30.18	766.6	10.1	—12.2	80	10	10	.....	1	5	2	.....	2	1	5455	8779	6	1.60	40.6
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.96	735 6	30.20	767.1	4.3	—15.4	85	10	7	1	1	5	3	2	.....	2	8749	14080	5	1.15	29.2
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28 44	722.4	.....	.....	—2.4	—19.1	78	8	13	.....	1	.....	4	1	2	2	6459	10395	5	0.18	4.6
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.74	730.0	30.28	769.1	—4.3	—20.2	74	6	10	.....	.....	2	5	.....	.....	8	6668	10731	5	0.48	12.2
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28 82	732.0	30.24	768.1	0.9	—17.3	85	5	12	1	2	2	3	2	.....	4	6891c	11090c	5	0.43	10.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.02	737.1	30.15	765.8	15.0	—9.4	91	5	7	1	2	4	6	4	2	.....	8437	13578	6	2.91	73.9
Valentine	N. 42 50	W.100 32	5.18 a.m.	2603	793	27.36	694.9	30.22	767.6	0.7	—17.4	79	9	8	5	5	.....	1	.....	.....	3	9172	14701	6	0.19	4.8
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.16	740.7	30.27	768.8	—10.2	—23.4	94	10	8	2	1	4	1	.....	2	3	8217	13224	5	0.94	23.9
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.34	745.2	30.33	770.4	—14.1	—25.6	94	5	11	1	1	3	4	.....	1	5	6634	10676	4	0.49	12.4
Bismarck a	N. 46 47	W.100 38	5.17 a.m.	1694	516	28.32	719.3	30.32	770.1	—7.8	—22.1	76	8	4	3	.....	.....	2	4	3	7	3997	6432	4	0.62	15.7
Fort Buford	N. 48 00	W.103 56	5.04 a.m.	1930	588	28.09	713.5	30.33	770.4	—9.3	—22.9	92	2	6	6	1	3	2	2	5	4	6061	9754	4	0.41	10.4
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.53	724.6	30.30	769.6	—13.0	—25.0	76	5	9	2	2	2	3	.....	4	4	9281	14936	5	0.91	23.1
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W.109 42	4.41 a.m.	2720	829	27.24	691.9	30.30	769.6	—2.2	—19.0	60	.....	3	5	13	2	3	3	1	1	7005	11273	5	1.50	38.1
Fort Benton	N. 47 50	W.110 40	4.37 a.m.	2681	817	27 31	693 7	30.29	769.4	—2.5	—19.2	87	.....	.....	.....	6	.....	.....	.....	7	18	1568	2523	8	0.67	17.0
Fort Custerc	N. 45 42	W.107 34	4.50 a.m.	3040	927	26.88	682.7	30.26	768.6	—2.4	—19.1	83	8	1	3	2	1	7	1	4	1	.....	.....	5	0.50	12.7
Fort Maginnis	N. 47 12	W.109 10	4.43 a.m.	4340	1323	25.45	646.4	30.22	767.6	1.8	—16.8	62	7	6	6	.....	1	3	3	4	1	9117	14672	7	2.40	61.0
Fort Shaw	N. 47 31	W.111 48	4.33 a.m.	3550	1082	26.35	669 3	30.22	767.6	0.2	—17.7	43n	3	.....	16	6	.....	.....	5	.....	1	6712	10802	3	0.85	21.6
Helena	N. 46 34	W.112 04	4.32 a.m.	4069	1240	25.81	655.6	30.19	766.8	6.4	—14.2	73	7	6	2	11	1	.....	1	1	2	4547	7318	5	0.82	20.8
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2000	610	28.02	711.7	30.38	771.6	-15.5	-26.4	90	3	4	10	.....	1	.....	.....	6	7	3931	6326	6	0.40	10.2
Deadwood	N. 44 23	W.103 43	5.05 a.m.	4600	1402	25.27	641.8	30.22	767.6	12.2	—11.0	81	3	.....	.....	10	4	.....	.....	10	4	2537	4083	3	1.28	32.5
Cheyenne	N. 41 08	W.104 48	5.01 a.m.	6105	1861	23.85	605.8	30.11	764.8	18.4	—7.6	81	6	16	4	1	3	.....	.....	1	.....	12213	16436	4	0.52	13.2
North Platte	N. 41 08	W.100 45	5.17 a.m.	2841	866	27.09	688.1	30.19	766.8	10.0	—12.2	81	3	12	5	2	1	5	2	1	.....	5748	9250	4	0.09	2.3
Middle slope.																												
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	14134	4308	17.44	443.0	30.13	765.3	0.3	—17.6	91	3	9	11	3	.....	.....	2	3	.....	19003	30582	3	4.04	102.6
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.64	727.4	30.18	766.6	6.0	—14.4	93	11	5	1	1	1	4	2	5	1	7880	12681	5	0.62	15.7
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.65	626.1	30.16	766 1	15.1	—9.4	70	4	3	3	3	16	.....	.....	2	.....	5796	9328	2	0.62	15.7
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899?	1188?	26.02	660.9	30.13	765.3	12.1	—11.1	92	6	6	12	.....	.....	.....	3	2	2	5292	8516	5	0.68	17.3
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.43	696.7	30.13	765.3	12.6	—10.8	86	8	8	5	.....	6	1	.....	2	1	8650	13921	5	1.82	46.2
Fort Elliott	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.24	691.9	30.16	766.1	19.1	—7.2	86	4	13	1	1	3	7	.....	.....	2	10037	16153	3	0.62	15.7
Southern slope.																												
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28 88	733.5	30.18	766.6	20.6	—6.3	74	15	5	.....	2	1	1	.....	3	4	8435	13574	4	0.42	10.7
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.28	718.3	30.16	766.1	28.2	—2.1	82	8	5	.....	7	1	3	4	3	.....	8077	12998	4	0.11	2.8
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25.15	638.8	30.09	764 3	34.5	1.4	62	5	.....	1	14	2	.....	.....	3	6	6485	10436	1	0.22	5.6
Fort Stanton	N. 33 30	W.105 26	4.58 a.m.	6100?	1859?	23.89	606.8	.....	.....	25.0	—3.9	78	2	15	5	1	.....	6	1	.....	1	7750	12482	3	0.36	9.1
Southern plateau.																												
Keeler	N. 36 35	W.117 50	4.09 a.m	3622?	1104?	26.34	669 0	.....	.....	38.4	3.6	73	7	2	.....	1	1	2	4	4	10	2865	4611	2	0.49	12.4
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	25.17	588.5	30.17	766.3	19.7	—6.8	81	8	1	1	1	3	4	3	9	1	5569	8962	3	0.70	17.8
Fort Thomas	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.33	694.2	30.13	765.3	30.4	—0.9	89	3	.....	4	1	10	2	8	2	1	2309	3716	4	2.16	54.9
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.06	636 5	30.14	765.5	27.1	—2.7	81	.....	1	.....	4	1	2	4	16	3	3518	5662	4	3.90	99.1
Fort Grant	N. 32 39	W.109 57	4.40 a.m.	4856	1480	25.23	640.8	30.10	764.5	34.2	1.2	70	7	12	2	.....	1	7	.....	1	1	4974	8005	4	2.46	62.5
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.70	627.4	30.12	765.0	28.7	—1.8	91	.....	2	4	8	1	.....	.....	3	13	5238	8430	4	5.99	152.1
Yuma	N. 32 45	W.114 36	4.22 a.m.	141	43	29.91	759.7	30.03	762.7	48.8	9.3	74	15	.....	1	.....	2	1	.....	4	8	4647	7478	3	1.06	26.9
El Paso	N. 31 47	W.106 30	4.54 a.m.	3764	1147	26.28	607 5	30.13	765.3	34.6	1.4	69	2	15	3	.....	.....	1	3	2	5	3623	5830	2	0.31	7.9
Middle plateau.																												
Fort Bridger	N. 41 28	W.110 30	4.38 a.m.	6643?	2025?	23.41	594.6	.....	.....	16.1	—8.8	78	.....	2	3	20	2	.....	1	1	2	9350	15047	5	0.56	14.2
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25 64	951 2	30.20	767.1	26.0	—3.3	76	2	6	3	.....	1	8	4	3	4	3520	5665	0	1.91	48.5
Frisco	N. 38 25	W.113 16	4.27 a.m	6400	1950	23.65	600.7	.....	.....	23.6	—4.7	78	7	1	1	21	.....	.....	1	.....	.....	8265	13301	5	0.54	13.7
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25.62	650.7	30.16	766.1	26.0	—3.3	70	.....	.....	3	14	.....	.....	3	10	1	7198	11584	5	0.71	18.0
Montrose	N. 38 30	W.107 56	4.48 a.m.	5780	1762	24.29	617.0	30.29	769.4	16.2	—8.8	77	.....	.....	1	6	5	15	3	1	.....	4060	6534	6	0.79	20.1
Fort Bidwell	N. 41 53	W.120 11	3.59 a.m.	4640	1414	25.35	643.9	.....	.....	25.4	—3.7	85	1	1	13	4	7	.....	.....	.....	5	3736	6012	6	5.78	146.8
Northern plateau.																												
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.22	691.4	30.15	765.8	24.1	—4.4	88	1	4	.....	.....	.....	14	3	.....	9	2907	4678	5	2.96	75.2
Lewiston	N. 46 28	W.117 05	4.12 a.m.	785	239	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	27.91	608.9	30.06	763.5	17.8	—7.9	84	2	.....	.....	4	3	1	3	6	2	10	3129	5036	7	3.12	79.2
Walla Walla	N. 46 03	W.118 18	4.07 a.m.	1018	310	29.00	736.6	.....	.....	23.6	—4.7	90	.....	1	5	19	4	2	.....	.....	.....	4419	7112	6	3.45	87.6
N.Pac. coast reg'n																												
Fort Canby	N. 46 16	W.124 04	3.44 a.m.	179	55	29.74	755.4	29.95	760.7	38.6	3.7	92	1	.....	4	8	1	14	3	.....	.....	11838	19051	6	6.33	160.8
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	29.95	760.7	30.00	762.0	34.7	1.5	92	4	.....	.....	3	17	3	1	2	1	3815	6140	7	9.47	240.5
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	29.96	761.0	29.98	761.5	30.7	—0.7	97	1	.....	.....	1	24	1	.....	3	1	3252	5234	6	5.54	140.7
Tatoosh Id	N. 48 23	W.124 44	3.41 a.m.	86	26	29.83	757.7	29.94	760.5	38.8	3.8	77	.....	3	2	2	2	4	18	.....	.....	14054a	22617a	7	16.82	427.2
Portland	N. 45 32	W.122 43	3.49 a.m	80	24	29.94	760.5	30.03	762.7	34.1	1.2	90	4	2	.....	.....	.....	13	.....	6	2	4	3620	5826	6	9.33	237.0
Roseburg	N. 43 13	W.123 20	3.47 a.m.	523	159	29.46	748.3	30.04	763.0	39.0	3.9	92	.....	2	2	.....	5	2	1	3	16	1241	1997	7	7.59	192.8
Mid. Pac.coast reg																												
Cape Mendocino	N. 40 26	W.124 24	3.42 a.m.	637	194	29.33	745 0	30.01	762.2	45.0	7.2	90	11	3	.....	.....	3	12	.....	1	1	15736	25324	5	4.61	117.1
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.73	755.1	30.08	764.0	42.2	5.7	90	5	10	.....	4	3	5	2	2	.....	5659	9107	4	4.85	123.2
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	30.03	762.7	30.08	764.0	42.9	6.1	94	1	10	.....	.....	5	10	.....	.....	5	5366	8636	3	7.95	201.9
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	30.02	762 5	30.07	763.8	48.4	9.1	85	9	5	2	5	1	4	3	2	.....	5224	8407	6	7.42	188.5
S. Pac.coast reg'n.																												
San Luis Obispo	N. 35 18	W.120 39	3.57 a.m.	270	82	29.77	756.1	30.04	763.0	47.0	8.3	85	8	.....	.....	.....	2	7	4	2	4	4	5806	9344	6	5.83	148.1
Los Angeles	N. 34 03	W.118 15	4.07 a.m.	339	103	29.69	754.1	30.03	762.7	49.9	9.9	82	1	1	1	1	.....	1	10	13	3	5228	8414	5	7.78	197.6
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.98	761.5	30.02	762.5	51.2	10.7	80	7	1	1	.....	2	2	6	10	2	3677	5918	5	6.95	176.5
Alaska stations.																												
Fort Alexander	N. 58 57	W.158 18	1.27 a.m.	18	5	29.98	761.5	30.10	764.5	10.3	—12.1	84	.....	.....	.....	1	4	.....	13	13	.....	.....	.....	.....	4	1.06	26.9
Ft St. Michael's	N. 63 48	W.161 48	1.13 a.m.	30	9	30.06	763.5	30.14	765.5	6.8	—14.0	85	8	.....	.....	1	.....	3	6	11	2	11755	18917	6	0.43	10.9
Sitka	N. 57 03	W.135 19	2.59 a m.	63	19	29.81	757.2	29.91	759.7	28.1	—2.2	71	2	.....	2	.....	.....	.....	9	11	6	1	7915	12738	5	7.36	186.9
Unalashka	N 53 53	W.166 32	0.54 a.m.	13	4	29.63	752.6	29.67	753.6	33.7	0.9	81	3	3	.....	1	4	12	6	.....	2	9552	15372	8	15.82	401.8
Sub-Series.																												
Behring's Island	N. 55 12	E.165 55	11.04 p.m.	20	6	29.53	750.0	29.61	752.1	27.4	—2.6	97	9	1	.....	.....	.....	• 1	8	12	.....	11430	18394	9	0.66	16.8
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.98	761.5	29.93	760.2	71.1	21.7	89	14	15	.....	.....	.....	.....	.....	2	.....	.....	.....	6	7.82	198.6
Cay Sal l ight H.c	N. 23 56	W. 80 28	6.38 a m.	?	?	.....	.....	.....	.....	68.7	20.4	83	.....	9	2	1	.....	5	8	3	.....	.....	.....	7	1.11	28.2
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.96	761.0	69.8	21.0	86	23	.....	.....	.....	.....	.....	.....	1	7	.....	.....	3	3.48	88.4
Paramaribo	N. 5 50	W. 55 13	8.19 a.m	6	2	30.01	762.2	29.93	760.2	78.0	25.6	85	.....	.....	.....	.....	.....	1	5	24	1	.....	.....	6	8.53	216.7
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.6	23.7	78	.....	.....	.....	.....	.....	1	7	23	.....	.....	.....	2	0.06	1.5
Pointe à Pitre	N. 16 44	W. 61 31	7.54 a.m.	0	0	29.98	761.5	29.90	759.4	73.6	23.1	85	1	.....	.....	.....	.....	2	.....	28	.....	.....	.....	4	2.93	74.5
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	60.6	15.9	.....	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.20	5.1
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.94	760.5	29.96	761.0	69.9	21.1	90	9	.....	5	6	2	.....	2	.....	7	.....	.....	.....	3	.....	.....

OCEAN SQUARE DATA FOR JANUARY, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.91	759.7	76.7	24.8	2	.....	.....	.....	.....	.....	3	26	.....	.....	4.6
12.5 27.5	29.94	760.5	77.0	25.0	2	.....	.....	.....	.....	.....	2	27	.....	.....	4.6
12.5 32.5	29.97	761.2	78.2	25.7	.....	.....	.....	.....	.....	.....	18	12	.....	1	4.5
12.5 37.5	29.97	761.2	79.0	26.1	.....	.....	.....	.....	.....	1	22	6	.....	2	4.2
12.5 42.5	29.97	761.2	79.1	26.2	.....	.....	.....	.....	.....	2	21	1	.....	7	4.5
12.5 47.5	29.95	760.7	80.0	26.7	.....	.....	.....	.....	.....	1	23	2	.....	5	4.2
12.5 52.5	29.94	760.5	80.8	27.1	.....	.....	.....	.....	.....	3	21	7	.....	.....	4.2
17.5 22.5	29.97	761.2	73.6	23.1	3	.....	.....	.....	.....	.....	9	19	.....	.....	4.3
17.5 27.5	30.00	762.0	74.4	23.6	.....	.....	.....	.....	.....	.....	6	25	.....	.....	4.2
17.5 32.5	30.03	762.7	75.5	24.2	.....	.....	.....	.....	.....	3	22	6	.....	.....	4.3
17.5 37.5	30.04	763.0	76.3	24.6	.....	.....	.....	.....	.....	8	19	1	.....	3	4.4
17.5 42.5	30.03	762.7	76.9	24.9	.....	.....	.....	.....	.....	6	15	2	.....	8	4.3
17.5 47.5	30.01	762.2	77.6	25.3	1	.....	.....	.....	.....	6	17	.....	.....	7	4.2
17.5 52.5	29.98	761.5	78.4	25.8	5	.....	.....	.....	1	7	13	5	.....	.....	4.0
17.5 57.5	29.96	761.0	78.6	25.9	2	.....	1	.....	.....	1	20	7	.....	.....	4.1
22.5 22.5	30.05	763.3	70.5	21.4	3	.....	.....	.....	.....	1	13	14	.....	.....	4.5
22.5 27.5	30.10	764.5	71.4	21.9	1	.....	.....	.....	.....	1	17	12	.....	.....	4.5
22.5 32.5	30.12	765.0	72.7	22.6	.....	.....	.....	.....	3	5	17	5	.....	1	4.4
22.5 37.5	30.10	764.5	73.3	22.9	1	1	.....	.....	1	12	14	1	.....	1	4.5
22.5 42.5	30.07	763.8	74.4	23.6	1	.....	.....	1	4	10	11	2	.....	2	4.3
22.5 47.5	30.05	763.3	75.2	24.0	4	2	.....	1	4	4	12	1	1	2	4.0
22.5 52.5	30.01	762.2	75.5	24.2	4	2	2	2	3	4	10	3	1	.....	3.7
22.5 57.5	29.97	761.2	74.9	23.8	5	3	1	.....	1	6	7	5	3	.....	3.7
22.5 62.5	30.00	762.0	74.2	23.4	3	2	2	1	2	6	8	7	.....	.....	4.2
22.5 67.5	30.00	762.0	73.3	22.9	7	.....	3	.....	4	5	5	6	.....	1	4.1
22.5 72.5	29.99	761.7	71.8	22.1	6	1	5	.....	2	2	11	4	.....	.....	3.9
27.5 22.5	30.14	765.5	67.2	19.6	4	1	.....	.....	.....	2	10	14	.....	.....	4.6
27.5 27.5	30.18	766.0	68.4	20.2	2	1	.....	.....	1	4	16	7	.....	.....	4.4
27.5 32.5	30.18	766.6	69.6	20.9	.....	.....	1	1	4	5	17	2	.....	1	4.4
27.5 37.5	30.16	766.1	70.5	21.4	1	1	.....	1	4	11	10	2	.....	1	4.5
27.5 42.5	30.12	765.0	71.1	21.7	1	1	1	1	6	11	7	2	.....	1	4.6
27.5 47.5	30.07	763.8	71.9	22.2	1	2	3	2	3	6	10	3	.....	1	4.5
27.5 52.5	30.04	763.0	71.8	22.1	4	2	.....	4	4	8	8	1	.....	.....	4.2
27.5 57.5	30.03	762.7	71.0	21.7	4	2	2	3	5	4	7	4	.....	.....	4.3
27.5 62.5	30.02	762.5	69.4	20.8	5	3	3	5	4	3	4	4	.....	.....	4.6
27.5 67.5	30.00	762.0	68.8	20.4	6	4	6	3	2	4	4	2	.....	.....	4.4
27.5 72.5	30.00	762.0	67.8	19.9	2	5	4	3	3	4	6	3	1	.....	4.1
27.5 77.5	30.02	762.5	61.7	16.5	9	2	4	2	3	2	7	1	1	.....	4.1
32.5 12.5	30.11	764.8	61.1	16.2	9	3	4	.....	.....	1	3	11	.....	.....	4.0
32.5 17.5	30.13	765.3	61.5	16.4	8	1	3	.....	.....	5	2	12	.....	.....	4.1
32.5 22.5	30.21	767.3	63.9	17.7	4	2	1	.....	1	5	5	13	.....	.....	4.6
32.5 27.5	30.26	768.6	65.7	18.7	4	2	1	.....	3	5	8	7	1	.....	4.5
32.5 32.5	30.25	768.3	66.5	19.2	5	.....	.....	2	5	4	12	2	1	.....	4.2
32.5 37.5	30.22	767.6	67.1	19.5	4	1	.....	1	6	10	6	1	1	1	4.3
32.5 42.5	30.15	765.8	67.3	19.6	3	.....	.....	2	5	15	4	2	.....	.....	4.7
32.5 47.5	30.10	764.5	67.9	19.9	2	1	2	2	6	11	3	2	1	1	4.8
32.5 52.5	30.07	763.8	67.7	19.8	3	2	2	2	8	6	5	3	.....	.....	4.8
32.5 57.5	30.04	763.0	66.4	19.1	4	3	.....	6	8	4	2	4	.....	.....	5.0
32.5 62.5	30.00	762.0	63.9	17.7	4	3	4	7	3	4	.....	3	2	1	4.5
32.5 67.5	29.99	761.7	61.9	16.6	6	3	7	6	2	4	1	2	.....	.....	4.8
32.5 72.5	30.00	762.0	58.6	14.8	5	8	4	1	4	3	2	3	.....	1	4.8
32.5 77.5	30.03	762.7	46.7	8.2	5	9	1	1	2	2	2	7	1	1	4.3
37.5 12.5	30.10	764.5	55.6	13.1	12	6	5	1	1	.....	.....	6	.....	.....	4.5
37.5 17.5	30.21	767.3	58.0	14.4	9	8	2	2	1	2	2	5	.....	.....	4.7
37.5 22.5	30.28	769.1	59.7	15.4	6	6	1	2	3	4	1	8	.....	.....	4.5
37.5 27.5	30.31	769.9	61.2	16.2	2	3	2	3	3	2	7	8	1	.....	3.7
37.5 32.5	30.30	769.6	62.6	17.0	1	5	.....	1	6	8	8	2	.....	.....	4.4
37.5 37.5	30.26	768.6	62.7	17.1	2	3	1	1	7	12	3	2	.....	.....	4.4
37.5 42.5	30.20	767.1	62.4	16.9	.....	.....	1	1	10	12	1	5	.....	1	4.5
37.5 47.5	30.14	765.5	62.9	17.2	1	1	.....	5	8	7	4	5	.....	.....	4.8
37.5 52.5	30.08	764.0	62.3	16.8	2	1	1	6	6	6	3	6	.....	.....	5.3
37.5 57.5	30.03	762.7	60.5	15.8	1	4	1	10	3	4	3	5	.....	.....	5.0
37.5 62.5	29.98	761.5	56.3	13.5	3	2	2	9	2	5	4	4	.....	.....	5.5
37.5 67.5	29.97	761.2	51.5	10.8	3	7	4	3	1	7	1	5	.....	.....	5.9
37.5 72.5	30.00	762.0	43.4	6.3	5	9	2	1	.....	4	2	7	.....	1	5.2
42.5 12.5	30.02	762.5	52.0	11.1	9	9	9	.....	.....	.....	.....	4	.....	.....	4.5
42.5 17.5	30.12	765.0	55.4	13.0	6	14	4	2	1	1	.....	3	.....	.....	5.4
42.5 22.5	30.23	767 8	56.4	13.6	8	13	2	4	1	.....	.....	3	.....	.....	5.1
42.5 27.5	30.30	769.6	58.0	14.4	9	9	3	4	3	1	.....	.....	1	1	4.3
42.5 32.5	30.32	770.1	59.0	15.0	4	5	1	8	6	3	.....	1	1	1	4.0
42.5 37.5	30.27	768.8	58.4	14.7	5	4	2	4	10	5	.....	.....	1	.....	4.8
42.5 42.5	30.21	767.3	55.1	12.8	4	1	2	4	8	4	4	4	.....	.....	4.7
42.5 47.5	30.17	766.3	51.7	10.9	3	1	1	5	5	7	1	7	1	.....	4.9
42.5 52.5	30.10	764.5	49.7	9.8	3	2	.....	5	8	3	4	5	1	.....	5.2
42.5 57.5	30.04	763.0	47.7	8.7	2	3	3	5	3	7	4	3	1	.....	5.0
42.5 62.5	30.02	762.5	40.5	4.7	2	4	3	3	5	5	2	6	.....	1	5.2
42.5 67.5	29.97	761.2	32.7	0.4	2	6	6	.....	2	7	6	2	.....	.....	5.1
47.5 12.5	29.91	759.7	50.4	10.2	8	10	6	2	.....	.....	3	1	.....	1	5.8
47.5 17.5	30.01	762.2	51.9	11.1	8	12	4	2	.....	1	1	2	1	.....	5.6
47.5 22.5	30.11	764.8	52.3	11.3	6	13	4	4	2	.....	.....	2	.....	.....	5.0
47.5 27.5	30.20	767.1	52.7	11.5	3	14	6	3	2	.....	.....	2	.....	1	5.0
47.5 32.5	30.21	767.3	52.6	11.4	3	7	7	7	3	.....	1	3	.....	1	4.9
47.5 37.5	30.20	767.1	51.1	10.6	3	6	2	9	5	1	1	3	1	.....	5.3
47.5 42.5	30.21	767.3	46.5	8.1	4	6	3	7	4	2	1	3	1	.....	4.7
47.5 47.5	30.16	766.1	37.7	3.2	6	3	3	5	7	4	.....	2	1	.....	4.6
52.5 12.5	29.80	756.9	44.3	6.8	2	8	11	1	1	.....	3	5	.....	.....	5.8
52.5 17.5	29.89	759.2	46.3	7.9	3	14	8	1	.....	.....	2	3	.....	.....	5.2
52.5 22.5	30.00	762.0	46.5	8.1	4	15	5	2	2	.....	.....	3	.....	.....	5.7
52.5 27.5	30.04	763.0	46.1	7.8	3	13	8	3	2	.....	1	1	.....	.....	5.3
52.5 32.5	30.08	764.0	45.4	7.4	.....	11	5	5	3	.....	.....	5	2	.....	5.0
52.5 37.5	30.10	764.5	44.6	7.0	5	8	5	7	1	3	1	1	.....	.....	5.0
52.5 42.5	30.14	765.5	40.0	4.4	2	11	1	9	2	1	1	2	.....	2	5.3
52.5 47.5	30.15	765.8	34.7	1.5	2	6	5	2	5	1	.....	1	.....	9	5.0
57.5 12.5	29.63	752.6	40.0	4.4	3	10	9	.....	.....	1	3	5	.....	.....	6.0
57.5 17.5	29.71	754.6	40.8	4.9	2	13	6	.....	.....	1	4	5	.....	.....	6.1
57.5 22.5	29.79	756.7	40.0	4.4	1	13	8	1	1	.....	2	5	.....	.....	5.8
57.5 27.5	29.86	758.4	38.8	3.8	1	14	4	3	1	1	2	4	.....	.....	5.8
57.5 32.5	29.92	760.0	37.4	3.0	.....	14	6	2	1	1	3	2	.....	2	5.6
57.5 37.5	29.99	761.7	30.9	2.7	.....	11	3	6	1	1	.....	4	.....	5	5.3
57.5 42.5	30.06	763.5	35.5	1.9	.....	9	2	1	3	.....	.....	2	.....	14	5.8
57.5 47.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

REVIEW.

INTERNATIONAL METEOROLOGY FOR JANUARY, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of January, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure is located over the Atlantic Ocean north of Scotland, and exhibits minimum mean pressure 29.47 (748.5) at Thorshavn, Färöe Islands. A second area of low mean pressure is shown over the southwestern portion of Behring Sea, with recorded barometric mean 29.61 (752.1) at Behring's Island. This area extends southward over the Pacific Ocean, where minimum pressure about 29.50 (749.3) is approximated for N. 50°, E. 170°. An area of low mean pressure bounded by the isobar of 29.80 (756.9) includes southern France, Italy, and portions of the Mediterranean and Adriatic seas; the mean barometric minima within this area, 29.74 (755.4), being shown at Rome, Nice, and Genoa. Over the southern half of British India the mean pressure ranges below 29.90 (759.4). At Freetown, Sierra Leone, the mean pressure for the month is recorded, 29.86 (758.4).

The area of highest mean pressure is located over central Asia, with maximum mean pressure 30.55 (776.0) at Irkutsk. A second area of mean high pressure is charted over the North American continent north of the fiftieth parallel, and includes the lower Saskatchewan valley; the maximum mean pressure recorded within this area is 30.42 (772.7) at Q'Appelle. The permanent area of high mean pressure over the Atlantic Ocean is central in N. 40°, W. 30°, with maximum mean pressure about 30.35 (770.9). An area of high mean pressure, bounded by the isobar of 30.30 (769.6), is shown over the northeast portion, and to the eastward of, the Caspian Sea.

Over the United States the mean pressure is highest over the extreme northwest, upper Missouri valley, and northern slope, and lowest on the north Pacific coast. The highest monthly barometric mean, 30.36 (771.1), is shown at Poplar River, Montana, and the lowest, 29.92 (760.0), at Fort Canby, Washington Territory. In the districts east of the Mississippi River the barometric means range from 30.00 (762.0) to 30.10 (764.5), the mean pressure being least at stations on the Atlantic coast and in the lower lake region. Over the southern districts to the west of the Mississippi the mean pressure generally ranges from 30.10 (764.5) to 30.20 (767.1). In the British Possessions in North America the mean pressure ranges from 30.42 (772.7) in the Northwest Territory to 30.00 (762.2) over Anticosti, Gulf of Saint Lawrence, and 29.90 (759.4) on the Pacific coast. Over the north Atlantic Ocean a barometric gradient of .88 of an inch is shown between the Färöe Islands and N. 40°, W. 30°. Over Europe the mean pressure ranges from 30.30 (769.6) over the extreme southeast portion to 29.56 (750.8) on the Norwegian coast; over the British Isles the maximum mean pressure is 29.70 (754.4) at Valencia, and the minimum 29.50 (749.3) over the Orkney Islands. Over Asia the barometric gradient is .90 of an inch between Behring's Island and Irkutsk; over the Japanese Islands the mean pressure ranges from 29.74 (755.4) at Nemuro, Yesso, to 30.15 (765.8) at Nagasaki, Kiu-siu; over British India the mean pressure ranges from 29.79 (756.7) at Bellary to 30.01 (762.2) at Lahore.

Compared with the chart for the preceding month (December, 1885), the following changes in mean pressure are shown: In the United States an increase has occurred in the lower Missouri valley and in the northern districts from western Montana to the Atlantic coast, the increase being greatest in the extreme northwest, where it amounts to .15 to .21 of an inch. In all other districts the mean pressure is lower than for the preceding month, the decrease being most marked in the central Rocky Mountain districts and east Gulf states, where it ranges from .10 to .14 of an inch. In Canada there has been an increase in mean pressure of from .10 to .15 of an inch over the Maritime Provinces, and about .10 of an inch in the Saint Lawrence Valley and in the vicinity of the Great Lakes; over the lower Saskatchewan valley the mean pressure is about .45 of an inch higher than in December; on the Pacific coast slight changes are shown. Over the north Atlantic Ocean the area of low mean pressure central for December over northern Scandinavia has backed southwest over the Färöe Islands, with minimum mean pressure about .10 of an inch higher, and the area of high mean pressure has contracted in area and moved northeast, with mean pressure ranging about .20 of an inch higher than in December. Over Europe marked changes have occurred in the mean pressure.

As influenced by the southwestward movement of the area of low mean pressure from northern Scandinavia, the course of the isobars over northwestern Europe has changed from east to west to north and south, and while the mean pressure along the west coast of Norway averages about the same as in December, there has been a decided increase in mean pressure to the eastward over Finland and northern Russia; over the British Isles the average increase in mean pressure ranges from .40 to .50 of an inch; over Spain there has been a decrease in mean pressure of about .25 of an inch; over south-central Europe the decrease in mean pressure averages about .30 of an inch, while over southeastern and central Europe there has been an increase in mean pressure of about .15 of an inch. Over Asia the location of the area of highest mean pressure has changed but slightly, while within the area the mean pressure has increased .05 to .10 of an inch; Over British India slight changes are noted; over the Japanese Islands the mean is .10 to .15 of an inch lower over Yesso, while over Hondo and Kiu-siu slight changes have occurred. Within the area of low mean pressure over Behring Sea the barometric means average about .10 of an inch lower than for December.

Compared with the corresponding month of previous years, the mean pressure over the United States was above the normal in the upper Missouri valley, extreme northwest, and in portions of the upper lake region and northern slope, the departures being greatest in northern Dakota and northern Minnesota. Over a small area, including portions of the Indian Territory and Texas, the mean pressure was normal, or slightly above. In all other parts of the country the mean pressure was below the normal, the departures being greatest on the north Pacific coast and in the Atlantic coast districts south of New England, where they generally exceeded .10 of an inch. Over Canada the mean pressure for the month was below the normal in Ontario, except in the northern portion, where it was about normal; it was also below the normal in the southwestern portion of Quebec, while over the remainder of that province, as also in New Brunswick and Nova Scotia, it was above the normal. Over the British Isles the mean pressure, when compared with the averages for the corresponding month in twenty years, shows a deficit varying from only a few hundredths of an inch at Valencia and about .10 in the northwest of Ireland to .25 of an inch on the northeast coasts, and to .30 of an inch over the southeastern counties; over the balance of Europe the mean pressure, as compared with the normal of eight years, is everywhere deficient, the greatest departure, .43 of an inch, being shown over Denmark, and the least, .07, over Russia. Over British India the mean pressure for the month was normal. At Tokei, Japan, the mean pressure was .11 of an inch below the normal.

In the United States the mean temperature for the month averaged below the normal over nearly the whole country, the exceptions being California, the western portions of the middle and southern plateau districts, and northern New England. The most marked deficiencies occurred in the Southern States and Missouri Valley. In Canada the mean temperature was below the normal in Ontario and Manitoba, and above the normal in Quebec and the Maritime Provinces, the excess

increasing from west to east. Over the British Isles the mean temperature averaged from two to three degrees below the normal; over the balance of Europe the mean temperature averaged below the normal, except in Austro-Hungary, Germany, and Russia, where it ranged slightly above. In British India the mean temperature was slightly below the normal, while in Japan it was slightly above the average for the month at Tokei.

The following table shows the mean pressure and mean temperature for January, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Jan. mean of 9 (1877-'85) years.	Jan., 1886.	Departure.	Jan. mean of 9 (1877-'85) years.	Jan., 1886.	Departure.
				°	°	°
Austro-Hungary	30.18	29.84	— 0.34	33.3	33.8	+ 0.5
British Isles	30.01	29.68	— 0.33	41.1	38.5	— 2.6
Denmark	30.04	29.61	— 0.43	32.8	32.7	— 0.1
France	30.14	29.82	— 0.32	42.0	40.9	— 1.1
Germany	30.13	29.78	— 0.35	33.0	33.4	+ 0.4
India *	29.93	29.93	normal.	71.9	70.9	— 1.0
Italy	30.09	29.77	— 0.32	47.9	45.2	— 2.7
Japan		29.98			33.2	
Norway	29.88	29.61	— 0.27	30.3	27.0	— 3.3
Russia	30.12	30.05	— 0.07	21.5	21.9	+ 0.4
Spain	30.16	29.96	— 0.20	51.6	44.7	— 6.9
Sweden	29.92	29.78	— 0.14	24.8	19.0	— 5.8

* Means for eight years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of January, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Jan. mean of 9 (1877-'85) years.	Jan., 1886.	Departure.	Jan. mean of 9 (1877-'85) years.	Jan., 1885.	Departure.
				°	°	°
Astrakhan, Russia	30.21	30.28	+ 0.07	23.9	24.4	+ 0.5
Archangel, Russia	29.81	29.93	+ 0.12	7.9	6.4	— 1.5
Athens, Greece	30.07	29.86	— 0.21	51.8	57.6	+ 5.8
Beirut, Turkey in Asia	30.05	29.99	— 0.06	59.6	63.5	+ 3.9
Barnaul, Siberia, Asia	30.41	30.38	— 0.03	1.7	6.1	+ 4.4
Bridgetown, Barbadoes	29.95	29.94	— 0.01	80.1	81.7	+ 1.6
Cape Town, Cape of Good Hope *				78.8	80.4	+ 1.6
Cagliari, Sardinia, Italy †	30.08			54.8		
Ekaterinburg, Russia	30.10	30.19	+ 0.09	4.5	13.1	+ 8.6
Fort Napier, Natal, South Africa	29.78	29.86	+ 0.08	78.3	82.3	+ 4.0
Freetown, Sierra Leone	29.83	29.86	+ 0.03	85.8	81.3	— 4.5
Funchal, Madeira Islands	30.17	30.15	— 0.02	64.3	62.1	— 2.2
Gibraltar				59.2	54.4	— 4.8
Godthaab, Greenland †	29.51			14.1		
Havana, Cuba, W. I.	30.08	30.01	— 0.07	70.3	63.6	— 6.7
Malta, Mediterranean Sea	30.04	29.79	— 0.25	58.4	56.3	— 2.1
Melbourne, New South Wales	29.94	29.96	+ 0.02	62.6	65.5	+ 2.9
Mauritius, Indian Ocean	29.87	29.87	normal	81.4	82.4	+ 1.0
Nassau, Bahamas, W. I. *	30.13	30.03	— 0.10	71.2	65.7	— 5.5
Nikolaevsk on the Amoor, Asia		30.02		— 9.8	— 8.1	+ 1.7
Paramaribo, D. Guiana, S. A	29.95	29.93	— 0.02	78.0	78.0	normal
Pekin, China †	30.39			23.0		
Ponta Delgada, Azores	30.10	30.31	+ 0.21	60.4	59.7	— 0.7
Swanbister, Orkneys	29.89	29.50	— 0.39	39.4	36.9	— 2.5
San Juan de Puerto Rico, W. I	30.02	29.97	— 0.05	75.0	73.6	— 1.4
Stykkisholm, Iceland	29.55	29.64	+ 0.09	29.2	21.9	— 7.3
Thorshavn, Färöe Islands	29.73	29.47	— 0.26	38.8	34.0	— 4.8
Tiflis, Russia	30.19	30.17	— 0.02	37.9	43.2	+ 5.3
Tokio, Japan	30.04	29.93	— 0.11	35.1	35.5	+ 0.4
Yeniseisk, Siberia, Asia	30.41	30.33	— 0.08	— 6.4	1.0	+ 7.4
Zi-Ka-Wei, China	30.35	30.30	— 0.05	35.3	35.1	— 0.2

* Means for eight years only. † Means for seven years only.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Springbok, Cape Colony	84.1	28.9	Qu'Appelle, British America	—19.3	—28.5
Bellary, India	83.0	28.3	Poplar River, Montana	—15.5	—26.4
Mauritius, Indian Ocean	82.4	28.0	Nikolaevsk, on the Amoor	— 8.1	—22.3
Fort Napier, Natal	82.3	27.9	Irkutsk, Asia	— 1.3	—18.5
San Salvador, Africa	81.7	27.6	Haparanda, Sweden	4.3	—15.4
Paramaribo, Dutch Guiana	78.0	25.6	Fort Saint Michael's, Alaska	6.8	—14.0

In the United States the prevailing winds were generally from the northwest on the eastern slope of the Rocky Mountains, in the extreme northwest, upper Mississippi and Missouri valleys, and the middle Atlantic and west Gulf states; in the lower lake region and east Gulf states they were westerly; in New England, and on the Pacific coast, they were variable. Over the British Possessions in North America the winds were variable. Over the north Atlantic Ocean, north of the fiftieth parallel, the prevailing winds, influenced by the area of low pressure north of Scotland, were northwest; south of the fiftieth parallel and east of the sixtieth meridian the wind-directions were governed by the area of high pressure central in N. 40°, W. 30°, around which they circulated. Over the British Isles west to southwest winds prevailed; over Europe north of the fiftieth parallel the winds were mostly southerly, while over the central and southern portions they were variable. Over British India the winds were variable. Over the Japanese Isles south to west winds prevailed over Yesso and the northern half of Hondo, while over the lower portion of Hondo and over Kiu-siu they were north to west. At Behring's Island northwest winds prevailed; at Unalashka they were mostly from the southwest.

In the United States the precipitation was in excess of the average on the Pacific coast, in the Rocky Mountain regions, and thence eastward over the northern districts to the Atlantic coast. In the Southern States, except over portions of Alabama, Mississippi, and Louisiana, there was a general deficiency. The greatest departure from the normal precipitation occurred in California, where it was from two to three inches in excess of the average. In Canada the precipitation was everywhere above the average for the month. Over the British Isles the precipitation was in excess, except on some parts of the west and southwest coasts.

In the United States the most noteworthy meteorological feature of the month was the area of high pressure, described in the MONTHLY WEATHER REVIEW as number i, and the attendant cold wave, which passed over the districts east of the Rocky Mountains from the 6th to the 12th. The loss of life and stock in the western districts was very great, and during the eastward movement of this high area the lowest temperatures recorded in many years occurred in the Southern States, causing much suffering and heavy losses to agricultural, fruit-growing, and other interests throughout the South. Over the north Atlantic Ocean disturbances were of unusual frequency. Over the British Isles the weather was very unsettled and the number of rainy days was large. The month was characterized in Europe by abnormally low pressure over the western and southern portions and the unusual number of storm-areas which traversed those sections, which contributed to make the general weather conditions unsettled throughout a greater portion of the month.

TRACKS OF AREAS OF LOW PRESSURE FOR JANUARY, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during January, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of forty-nine areas of low pressure are shown, of which eleven are traced over the North American continent; fourteen over the north Atlantic Ocean; sixteen over Europe; and eight off the eastern coast of Asia, over the Japanese Islands, the north Pacific Ocean, and Behring Sea. The average number of areas of low pressure traced over the North American continent for the month of January during the last twelve years is 13.2.

During January, 1886, several barometric depressions appeared near the coast or along the northern boundary of the United States, which indicated the presence of low areas, but were not sufficiently well defined to render it possible to locate the centres. Of the low areas charted, five apparently devel-

oped near the west Gulf coast; two are traced from the Pacific coast; one first appeared in about N. 40°, W. 110°; two were first observed in the Saskatchewan Valley; and one is traced northeast along the middle Atlantic and New England coasts. The general course of direction of the depressions was northeast over the eastern half of the continent, and east to southeast west of the one hundredth meridian.

These storms are described in detail in the MONTHLY WEATHER REVIEW for January, 1886, under the heading "Areas of low pressure."

Of the thirteen depressions traced over the north Atlantic Ocean, two were continuations of storms which first appeared in the Rio Grande Valley and moved northeastward to the Gulf of Saint Lawrence; two, of tropical origin, united over the ocean with depressions which had advanced from the Rio Grande Valley; five first appeared in the vicinity of Iceland; four developed over the ocean west of the fiftieth meridian; and one is first charted over mid-ocean in N. 52°. The path of one depression was clearly shown from the Caribbean Sea whence it passed northward to the Gulf of Saint Lawrence, where it remained nearly stationary during the last two days of the month. Two storms apparently developed in the subtropical region north of the West Indies, and one passed northward from the twentieth parallel in about W. 46°. The storm tracks predominated in the vicinity of Iceland, from which region they are traced southeast in the direction of the North Sea; over the ocean in the vicinity of the fiftieth parallel, the depressions pursued an easterly course, while over the western half of the ocean to the southward the direction of movement of storm-tracks was greatly diversified.

The following are brief descriptions of the more important storms which appeared over the north Atlantic Ocean during the month:

On the 1st an area of low pressure, number xii, was central in about N. 32°, W. 46°, and a deep depression, showing barometric readings ranging to 28.82 (732.0) at Brono, was located over the west-central coast of Norway; in the vicinity of the fiftieth parallel the pressure was high from coast to coast. By the 2d depression number xii had moved slightly to the northward, and the centre of the area of low barometer over Norway had passed eastward; the pressure continued high along the fiftieth parallel, and an area of high barometer occupied southwestern Europe and the ocean westward to the Azores. By the 3d depression number xii had moved northward along the western margin of the area of high pressure which continued over the ocean east of the Azores, after which it apparently circled northeastward and disappeared north of the forty-second parallel; on this date a depression of great depth, number xiii, appeared over the ocean between the British Isles and Iceland, with pressure 28.84 (732.5) over Färöe Islands; the area of high pressure continued off the southwest coast of Europe, and a second area of high was located over the Canadian Maritime Provinces.

By the 3d depression number xiii had moved slowly eastward, and pressure 28.78 (731.0) was shown at Thorshavn, Färöe Islands; slight changes had occurred in the area of high in the vicinity of the Azores, and the area of high pressure over the Canadian Maritime Provinces had extended over the ocean to the fortieth meridian. By the 5th depression number xiii had moved south of east over Scandinavia, and the area of high, central on the 4th over Newfoundland, had extended southeastward and formed an elongated area of high pressure extending from the Azores to the Newfoundland coast. On the 6th an area of low pressure was central in the English Channel, and one over New England, causing unsettled weather on the American and European coasts; over mid-ocean the pressure continued high. On the 7th, depression number xiv appeared over the ocean north of Scotland, with pressure 28.82 (732.0) at Thorshavn, Färöe Islands, and the depression central on the 6th over New England had advanced over the Gulf of Saint Lawrence; over mid-ocean the area of high pressure had contracted slightly to the southeastward. By the 8th, depression number xiv had moved southeast to the vicinity of the Shetland Islands, and depression number xv had advanced from the Gulf of Saint Lawrence to the Labrador coast; the high barometer over mid-ocean had moved southeast and contracted in area.

By the 9th the depression, number xiv, had moved southeast over the North Sea, and number xv had apparently passed northeast to the southeast coast of Greenland; over mid-ocean the pressure continued high. By the 10th depression number xv had circled to the southeastward of Iceland, and the high barometer over mid-ocean occupied a limited area northwest of the Azores. By the 11th depression number xv had circled northeast along the Norwegian coast, after which date it disappeared to the northward; the area of high pressure over mid-ocean had enlarged and extended northward. On the 12th depression number xvi appeared over the ocean southeast of Nova Scotia, with central pressure about 29.58 (751.3); over the ocean north of the British Isles the barometric gradient was steep, with minimum pressure off the northwest coast of Norway: on this date slight changes occurred in the area of high over mid-ocean. By the 13th depression number xvi had apparently moved northeast and dispersed on the northwest margin of the area of high pressure over the ocean, and a second area of high barometer had advanced eastward over the North American continent and occupied the ocean from Nova Scotia to Florida; on this date a depression, which apparently developed over the North Sea, caused the low barometer readings off the central and northern Atlantic coasts of Europe.

On the 14th depression number xvii appeared between the coasts of Greenland and Iceland, with pressure 28.71 (729.2) at Stykkisholm, Iceland; the area of high pressure on the east coast of North America had contracted to the northward, and the area of high over mid-ocean exhibited no changes. By the 15th depression number xvii had passed south of east and was central north of the Färöe Islands, with pressure 28.57 (725.7) at Thorshavn; the area of high pressure noted on the 14th on the east coast of North America had elongated to the eastward and united with the area of high central near the Azores. By the 16th depression number xvii had circled northeast to about N. 70°, E. 10°, with central pressure below 28.80 (731.5), after which it disappeared to the northward; depression number xviii is first located on this date in N. 29°, W. 62°, whence it had apparently advanced from the region to the eastward of the Windward Islands; detached areas of high barometer appeared, one being central over the Azores and the other over Newfoundland. By the 17th depression number xviii had moved slowly northwest to the vicinity of Bermuda, where pressure 29.60 (751.8) was shown; depression number xix appeared on this date to the northwest of the Färöe Islands, with central pressure about 28.67 (728.2); the area of high pressure which was central on the 16th over Newfoundland, had moved southeastward, and, uniting with the other high area noted on that date, formed an elongated area of high barometer extending from the north of the Banks of Newfoundland to Madeira.

By the 18th depression number xviii had circled to the south of Newfoundland, where it united with land depression number v, which had advanced from the west coast of the Gulf of Mexico; on this date the depression exhibited central pressure ranging below 29.20 (741.7), and violent storms were encountered between the fortieth and sixtieth meridians; depression number xix had advanced slowly southeast and was central north of Scotland, with pressure ranging below 29.00 (736.6); a second, or subsidiary, area of low pressure appeared on this date over the north of England; the northern portion of the area of high over the ocean had swung to the eastward and the area was elongated north and south. By the 19th depression number xviii had moved northeast to N. 52°, W. 38°, with an apparent slight increase in pressure; number xix had passed slowly southeast into the North Sea, with a marked increase in pressure; the area of high barometer over mid-ocean had given way to the southeastward and presented a largely concaved northwest boundary line of 30.40 (772.1). By the 20th

depression number xviii had moved slowly north of east to N. 54°, W. 26°, where slight energy was shown; a depression of marked energy appeared on this date south of the British Isles, and a storm-area was located over the Gulf of Saint Lawrence; the area of high pressure over the ocean had moved westward, and extended northward over the Banks of Newfoundland.

By the 21st depression number xviii had moved eastward over the British Isles and united with the storm noted as appearing to the southward on the 20th; depression number xx was central in N. 51°, W. 39°, whence it had advanced from the Gulf of Saint Lawrence; an area of high pressure extended over the ocean south of the forty-second parallel and included New England and the Canadian Maritime Provinces, with maximum pressure over Nova Scotia. By the 22d depression number xx had advanced to N. 50°, W. 28°, with central pressure about 29.30 (744.2) and strong gales over a considerable area; depression number xxi appeared on this date to the northwest of Bermuda, with central pressure about 29.70 (754.4) dividing the area of high pressure which extended over the ocean on the 21st, one portion of which extended on the 22d over Newfoundland and Canada, the other being located over the ocean to the west and southwest of the Azores. By the 23d depression number xx had moved southeast to N. 47°, W. 16°, with central pressure about 29.20 (741.7); depression number xxi had advanced rapidly northward to the Saint Lawrence Valley where it united with land depression number viii which had advanced from the Pacific coast of North America; a limited area of moderately high pressure extended over the Banks of Newfoundland and southeastward to the thirty-eighth parallel.

By the 24th depression number xx had moved slowly southeast to N. 44°, W. 12°, with central pressure about 29.10 (739.1); depression number xxii appeared in N. 37°, W. 50°, with pressure about 29.70 (544.4), and depression number xxiii was located in the Caribbean Sea, south of Cuba; over mid-ocean, from Greenland and Iceland to the eighteenth parallel, the barometer was comparatively high, with maximum pressure 30.37 (771.4) over Iceland. By the 25th depression number xx had moved northeast to the French coast, accompanied by storms of considerable violence; depression number xxii had moved slowly southeast to N. 33°, W. 46°, with a slight show of energy; number xxiii had circled northward over Cuba, accompanied by fresh gales and rain; over mid-ocean the pressure continued high between the fifteenth and seventieth parallels. By the 26th depression number xx had apparently backed to the south of Ireland, after which it evidently filled up; depression number xxii had moved slowly eastward to N. 33°, W. 40°, with strong gales to the westward; depression number xxiii had advanced slowly northeast to N. 28°, W. 75°, with an appreciable increase in energy; the area of high pressure had given way to the eastward in advance of depressions numbered xxii and xxiv and an area of high had advanced from the westward over Newfoundland and southward to the fortieth parallel.

By the 27th depression number xxii had filled up between the areas of high pressure over the ocean; depression number xxiii had moved slowly north of east to N. 29°, W. 70°; number xxiv, which had advanced from the westward, was central in N. 52°, W. 27°, with central pressure about 29.60 (751.8); an area of high pressure had moved eastward over Scandinavia, and the barometer was high to the southeastward of the Azores. By the 28th depression number xxiii had circled northward to N. 37°, W. 70°, where it united with land depression number ix, which had advanced from the Rio Grande Valley; number xxiv had moved northeast to N. 55°, W. 15°, after which it circled northward to the vicinity of Iceland. On this date a depression of considerable energy appeared to the westward of the Azores; a small area of high barometer was located over Madeira, and the pressure was high over Newfoundland and eastward to the fortieth meridian. By the 29th depression number xxiii had moved slightly northeast to N. 39°, W. 69°, with pressure ranging below 29.40 (746.7), and rain and moderate to fresh gales over a large area; the depression west of the Azores on the 28th had disappeared, and an extensive area of high barometer extended from the Spanish coast to the Banks of Newfoundland.

By the 30th depression number xxiii had passed northward to the Gulf of Saint Lawrence, with central pressure ranging to about 29.30 (744.2); depression number xxv appeared off the west coast of Iceland, with pressure ranging below 28.60 (726.4); the area of high pressure over mid-ocean had contracted to the eastward and extended from the Azores to the Spanish coast. By the 31st depression number xxiii had apparently circled slightly to the southward and was central in the vicinity of Prince Edward Island, Gulf of Saint Lawrence; depression number xxv had passed southeast over Iceland and was central north of Scotland, with pressure 28.71 (729.2) at Thorshavn, Färöe Islands; the area of high barometer between the Spanish coast and the Azores exhibited slight changes.

Of the sixteen depressions traced over Europe, seven first appeared over, or traversed portions of, the Mediterranean Sea; one apparently originated over the Bay of Biscay; two are first charted south of the British Isles; five were continuations of storms which first traversed the north Atlantic ocean, and one first appeared off the west-central coast of Norway. To the southward of the forty-fifth parallel the general course of direction of the depressions was northeasterly; over central and northern Europe the storms pursued an easterly course, circling more to the northward after passing to the eastward of the twentieth meridian.

On the 1st depression number xxvi was central off the west-central coast of Norway, with pressure 28.82 (732.0) at Brono; depression number xxvii was central south of Sicily, with pressure about 29.60 (751.8); over Caucasia, and the ocean west of the bay of Biscay, the pressure was high. By the 2d depression number xxvi had moved eastward to the south coast of the White Sea, with pressure 28.95 (735.3) at Kem; depression number xxvii had moved slowly to the southeast of Sicily, with an appreciable loss of energy; the area of high pressure over Caucasia on the 1st had moved southeast over the Caspian Sea into Toorkistan, and the area of high pressure off the southwest coast of Europe had enlarged, with a slight decrease in pressure. By the 3d depression number xxvi had passed south of east into Russia, where it filled up and disappeared after the 4th; depression number xxvii is given a probable track to the south coast of the Black Sea by the 4th; the area of high pressure off southwest Europe on the 2d had extended eastward over France and Spain and into Austro-Hungary. By the 4th the advance of ocean depression number xiii to the northward of the British Isles caused low pressure over the west-northwest portions of Europe; the area of high pressure noted on the 3d had extended eastward to the twenty-fifth meridian and included territory south of the forty-fifth parallel.

By the 5th depression number xxviii, a continuation of ocean depression number xiii, was central over southern Scandinavia, with pressure 28.93 (734.8) at Christiania; the area of high over southern Europe on the 4th had shifted to the southwestward. By the 6th depression number xxviii had moved eastward to the Baltic Sea, with pressure ranging to 29.00 (736.6); depression number xxix appeared over the English Channel, with pressure ranging below 29.60 (751.8); on this date the pressure was high over the Black and Caspian seas and Caucasia. By the 7th depression number xviii had moved northeast over the Gulf of Finland, with a decided increase in pressure; depression number xxix had passed south of east over the northern portion of France, without evidence of marked energy; depression number xxx apparently originated over Spain, and, passing northeast, was central off the south coast of France; on this date an area of high pressure was central over the Caspian Sea.

By the 8th depression number xxviii had moved into northern Russia, after which it disappeared to the northeastward; depression number xxix had passed eastward into Austro-Hun-

gary, where it united with depression number xxx, which had advanced northeastward from the Mediterranean; the depression, as located over Austro-Hungary, exhibited small stregth; on this date ocean depression number xiv was central between the coasts of Norway and Scotland, with pressure ranging below 29.00 (736.6); no area of high appeared over Europe on this date, although barometric readings ranging above 30.00 (762.0) appeared over western Spain and southern Russia. By the 9th depression number xxix had moved slowly north of east over the northern portion of Austro-Hungary; depression number xxxi had passed northeast over the North Sea into northern Germany, with a large increase in central pressure; depression number xxxii had advanced over the Mediterranean to the west coast of Italy, with central pressure about 29.35 (745.5); the pressure was generally low, except over the extreme eastern and western portions of Europe, where it ranged above 30.00 (762.0).

By the 10th depression number xxix had changed its position but slightly, and depression number xxxi, advancing from the northwest, had united with it on the northern boundary of Austro-Hungary; depression number xxxii had circled south of east over Italy into the Adriatic Sea; an area of high pressure, elongated southeast from central Russia, appeared, and the pressure was increasing over the British Isles, France, and Spain. By the 11th depression number xxix had moved northeast into Finland; depression number xxxii had passed southeast over the Adriatic Sea to the northwest coast of Greece, with a moderate display of energy ; the area of high over Russia on the 10th had moved east into Asia, and the pressure had decreased somewhat over western Europe. By the 12th depression number xxix had passed northeast into Russia, after which it apparently dissipated; depression number xxxii had circled northeast to the northwest coast of the Black Sea, and depression nnmber xxxiii appeared over the northern extremity of the Adriatic Sea, with pressure about 29.55 (750.6); the pressure was high on this date over the Bay of Biscay and the east-central portion of Russia.

By the 13th depressions numbers xxxii and xxxiii had united over Russia, where pressure 29.27 (743.4) was shown; depression number xxxiv appeared off the northern coast of Sicily, with pressure 29.57 (751.1) at Palermo; depression number xxxv appeared over Norway, with pressure 29.00 (736.6) at Bergen; on this date the barometer readings were highest over western Spain and along the Asiatic frontier. By the 14th depression number xxxii had advanced slightly to the northeastward, after which it disappeared; number xxxiv had moved slowly northeast over southern Italy, after which it apparently dissipated; number xxxv passed northward along the Norwegian coast and dispersed; the pressure was generally low over Europe during this date. On the 15th no storm-area appeared and the pressure was highest over southeastern Russia. On the 16th depression number xxxvi appeared southwest of Sicily, with pressure about 29.50 (749.3); a depression was central off the Norwegian coast, and the barometer continued high over southeastern Russia. By the 17th depression number xxxvi had moved northeast over Sicily, with pressure ranging below 29.20 (741.7); a depression was central north of the British Isles, and a contracted area of high was located north of the Caspian Sea.

By the 18th depression number xxxvi had advanced to the south coast of Italy, with pressure below 29.40 (746.7); a depression, with pressure ranging below 29.00 (736.6), was located over Scotland and the ocean to the northward; the barometer was high over east-central Russia. By the 19th depression number xxxvi had circled northwest over Italy, with pressure about 29.25 (742.9), and a depression occupied the North Sea; the barometer continued high over eastern Russia. By the 20th depression number xxxvi had moved northward into Germany, where it united with depression number xxxvii; depression number xxxviii appeared south of the British Isles, with central pressure about 29.30 (744.2); the barometer continued high over east-central Russia. By the 21st depression number xxxvii had moved south of east to the twentieth meridian, with pressure ranging below below 29.40 (746.7), after which it apparently dissipated to the northward of the Black Sea.

Number xxxviii had moved slowly northeast through the English Channel and united with depression number xxxix, which had advanced eastward over the ocean and the British Isles; depression number xl appeared over central France, whence it had apparently advanced from the Bay of Biscay; the barometer continued high over eastern Russia. By the 22d depressions number xxxix and xl united over northeastern France, with pressure ranging below 29.40 (746.7); the barometer continued high east of the fortieth meridian. On the 23d no storm-area appeared over Europe, although a depression of considerable energy was located over the ocean west of the Bay of Biscay; the barometer continued high east of the fortieth meridian. On the 24th ocean depression number xx was central off the northwest coast of Spain, and an elongated area of high pressure extended from Scandinavia to the Caspian Sea. By the 25th the ocean depression had advanced northeast over the Bay of Biscay, accompanied by strong gales and rain, after which it apparently moved westward over the ocean, and disappeared after the 26th; the area of high barometer over eastern Europe had contracted to the southeastward.

On the 26th the pressure was low south of the British Isles; one area of high barometer had moved eastward into Asia and one had extended from the ocean eastward over northern Scandinavia. On the 27th no depression appeared over Europe; an area of high barometer was located over Scandinavia. On the 28th depression number xli appeared southwest of Sicily, with pressure ranging below 29.60 (751.8); the area of high had moved southeast from Scandinavia into the Russian Baltic provinces. By the 29th depression number xli had advanced to the west coast of Sicily, with central pressure about 29.45 (748.0); the area of high barometer had moved southeast from the Baltic provinces over central Russia, and an area of high had extended from the ocean eastward over southern Spain. By the 30th depression number xli had moved to the southern extremity of Italy, with a marked increase in central pressure, after which it apparently filled up; the area of high had moved southeast from central Russia to the Caspian Sea, and the barometer had risen over southwestern Europe.

On the 31st a deep depression was located north of Scotland; the pressure was low over south-central Europe and high over the southeast and southwest districts.

Of the eight depressions traced over Asia, the Japanese Islands, the north Pacific Ocean, and Behring Sea, three are charted over, or in the vicinity of, the Japanese Islands, one of which passed into Behring Sea and over the Aleutian Islands into the Pacific Ocean; two apparently originated south of Kamchatka, and three are traced to the North American coast. The general course of direction of the depressions was east to northeast.

On the 1st depression number xlii appeared southeast of Kamchatka, where it remained nearly stationary as an area of low pressure until the 5th, after which it circled east and northeast to the west coast of Alaska, in N. 61°, by the 8th. Depression number xliii appeared on the 9th southeast of Behring's Island, whence it passed east over the Aleutian Islands by the 10th, after which it disappeared. Depression number xliv apparently passed northeast over the Sea of Japan to the north coast of Yesso, where it was central on the 11th, with pressure 29.41 (747.3) at Cape Soya; from this position the depression is given a probable track over the Kooril Islands to the southeast of Behring's Island by the 13th, after which it passed south of east over the Aleutian Islands and disappeared over the Pacific Ocean after the 16th.

Depression number xlv appeared over the Sea of Japan on the 20th, with central pressure about 29.70 (754.4); by the 21st the depression had advanced to the west coast of Yesso, with central pressure about 29.20 (741.7), whence it advanced over the Kooril Islands by the 22d, where it remained nearly sta-

tionary as an area of low pressure until the 28th, after which it advanced north of east and disappeared to the westward of the Aleutian Islands after the 29th. Depression number xlvi was central off the North American coast, in about N. 46°, on the 20th, whence it had advanced from the ocean; during the 20th the depression apparently moved eastward along the valley of the Columbia River, and, under date of the 21st, was continued as land depression number viii. Depression number xlvii appeared over the ocean, in about N. 39°, W. 141°, on the 21st, with pressure ranging below 29.40 (746.7), whence it moved northeast to the North American coast, where it remained nearly stationary, between N. 45° and N. 50°, as an area of low pressure from the 22d to the 26th, after which it was traced inland as land depression number x. Depression number xlviii is given a probable track from the southern extremity of the Alaska Peninsula to the vicinity of Sitka from the 27th to the 29th. Depression number xlix appeared on the 30th off the south coast of Hondo, with pressure ranging below 29.60 (751.8), whence it moved northeast to the fortieth parallel by the 31st, with an appreciable decrease in central pressure, and rain over the Japanese Islands.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

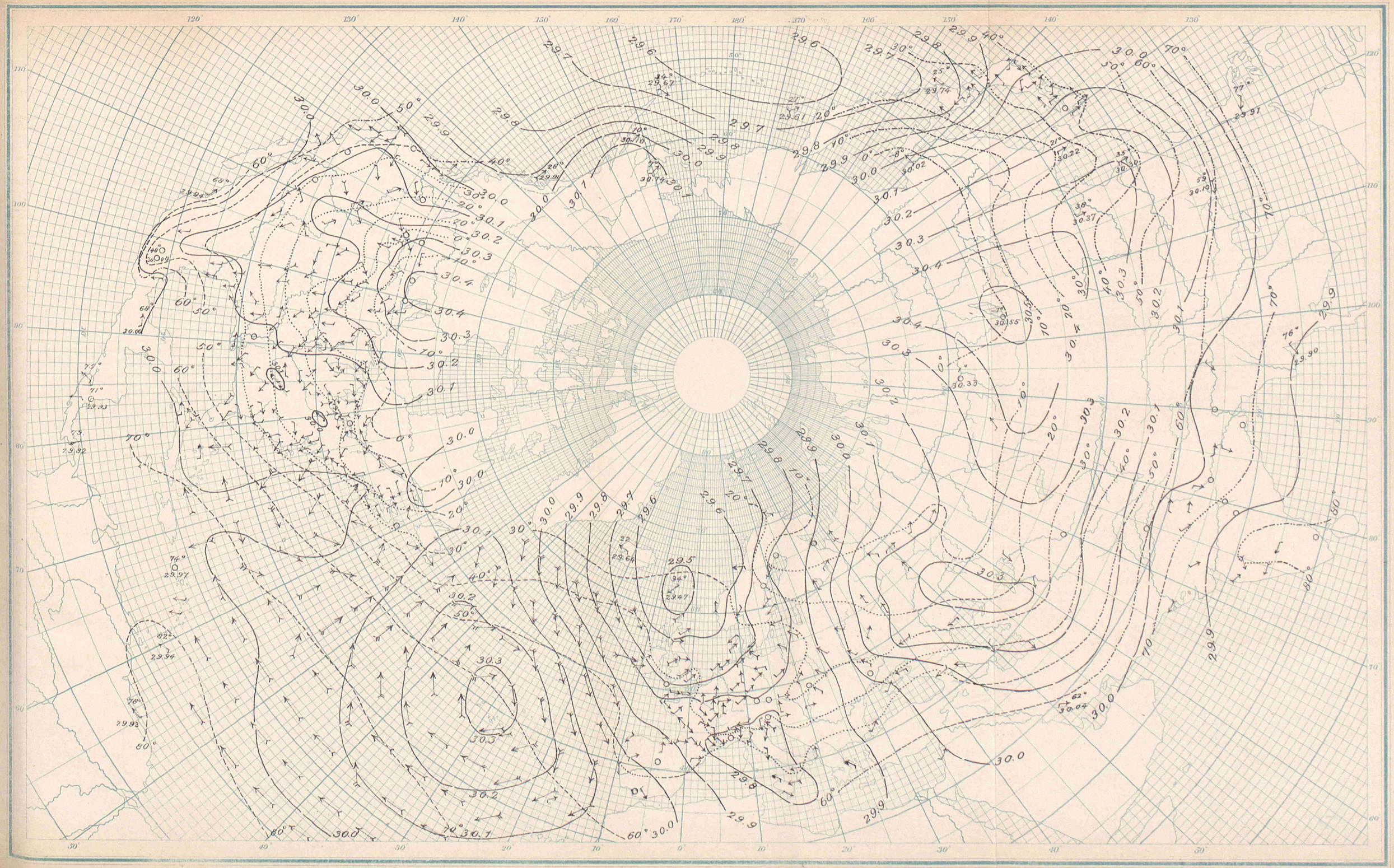
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

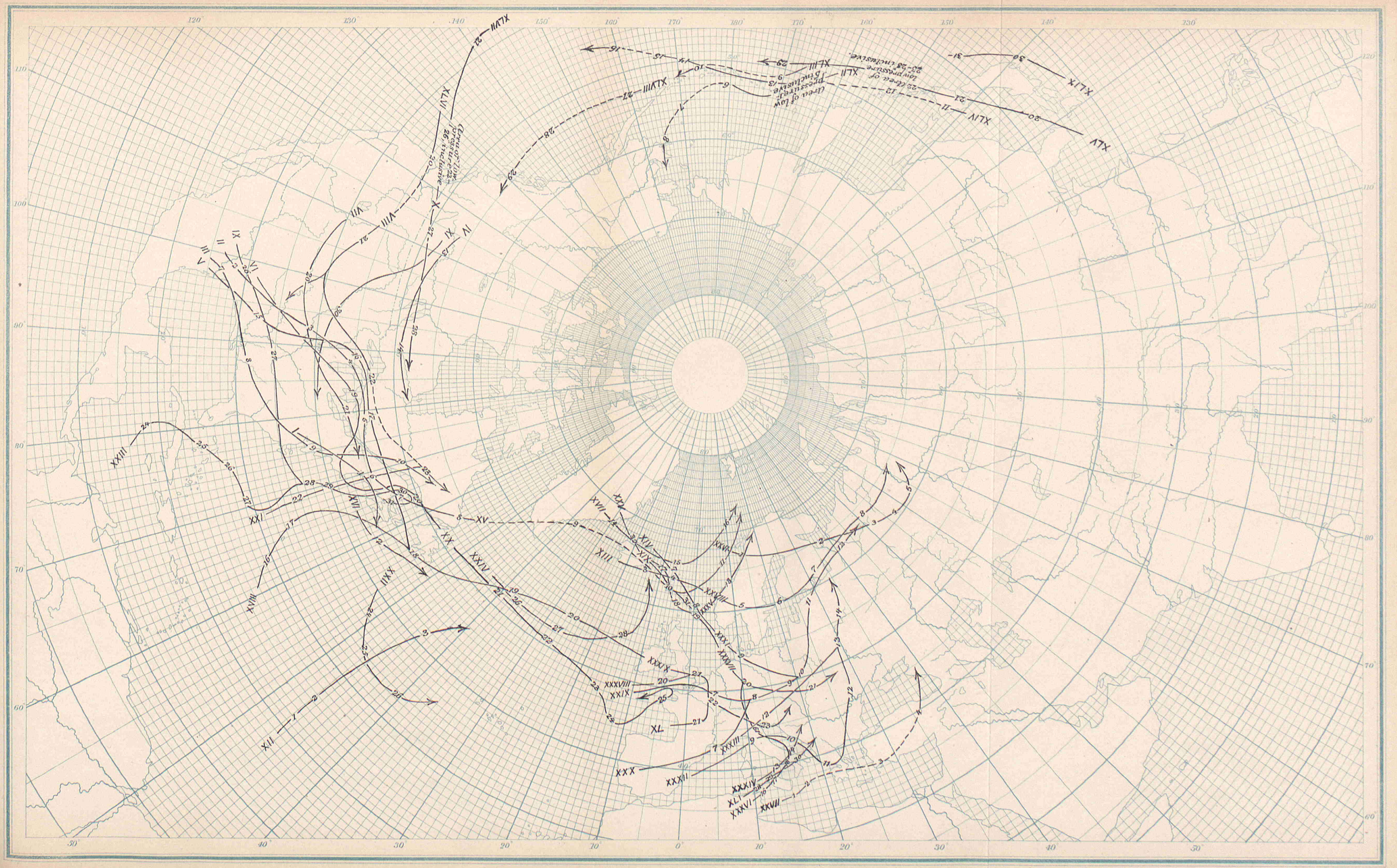
A. W. GREELY,
Chief Signal Officer.

International Chart II. January, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. January, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January, 1886—Continued.

Name of vessel.	Captain.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Coltic	Benj. Gleadell.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.
WILSON LINE.	
Br. s. s. Bravo	Charles Smith.
Bassano	W. Rea.
Chicago	J. W. Jones.
Otranto	F. Kerr.
Rialto	Wm. Rippeth.
Salerno	Wm. Abbott.
WATTS, WARD LINE.	
Br. s. s. Acton	R. P. Gowing.
Camden	S. R. Chandler.
MISCELLANEOUS.	
Br. s. s. Aboraca	Robt. Temple.
Br. Bedford	Thos. Aitkenhead.
Craighill	W. H. Bennett.
Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	Jos. Scholtz.
Elstow	Thos. Robertson.
Span. Hugo	A. de Mugica.
Br. Joseph Ferens	John J. Mchegan.
Lord Lansdowne	C. H. Baskfill.
Lord O'Neill	Jas. Dunn.
Am. Lorenzo D. Baker	W. F. Wiley.
Br. Macedonia	W. Watson.
Menzaleh	J. B. McKie.
Span. s. s. Navarro	S. de Aldecocea.
Br. Oxfordshire	C. P. Jones.
Peconic	John Jenkin.
Prydain	Moses Perry.
Ger. Raiatea	J. Viereck.
Br. Rydal Water	J. H. Jones
Saint Ronans	Henry Campbell.
Strathleven	C. W. Pearson.
Salisbury	J. Davison.
Sulina	Thos. Potter.
Span. Valentia	Ch Offl, J. A. Estopiñá.
Br. Viola	Capt. L. Murray.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Am. Advance	J. R. Beers.
Br. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Alene	E. J. Selders.
Algiers	J. B. Percy.
Br. Alpin	J. B. Jones.
Alvo	D. Williams.
Arizona	Sam. Brooks.
Baltic	G. Burton.
Belg. Belgenland	W. A. Beynon.
Br. Britanic	H. Perry.
Am. City of Alexandria	J. W. Reynolds.
City of Chicago	Fred. Watkins.
Coltic	Benj. Gleadell.
Am. City of Puebla	John Deakin.
Br. Claribel	T. M. McKnight.
City of Richmond	Authur Lewis.
Am. Colon	Chas. C. Lima.
Chalmette	Robert B. Quick.
Ger. Ems	W. Willigerod.
Gallia	M. Murphy.
Dan. Geiser	F. V. Schierbeck.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—Con.	
Ger. Lessing	Capt. B. Voss.
Belg. Nederland	A. J. Griffin.
Fr. Neustria	Ch. Off. Bourge.
Olympia	Capt. James Brown.
Oregon	P. Cottier.
Orinoco	S. Garvin.
Dtch. P. Caland	F. H. Bonjer.
Br. Persian Monarch	Jas. Watson.
Belg. Pennland	R. Weyer.
Br. Republic	P. J. Irving.
Belg. Rhynland	J. C. Jamison.
Am. San Marcos	Ch. Off. A. B. Conner.
Dtch. Schiedam	Capt. G. Bakker.
Br. State of Pennsylvania	A. J. Mann.
State of Nebraska	A. G. Brace.
Belg. Switzerland	H. Buschmann.
Fr. St. Laurent	M. de Jousselin.
Dtch. W. A. Scholten	G. J. Vis.
Belg. Westernland	Com. W. G. Randle.
SAILING VESSELS.	
Am. bg. Abbie Clifford	Capt. D. W. Storer.
schr. Abbie H. Gheen	W. W Gheen.
Br. bk. Abyssinian	John Hughes.
Ger. sp. Agra	H. Rügemann.
bk. Ada Peard	N. Hoken.
Am schr. Annie R. Lewis	L. L. Lewis.
bg. Arcot	J. W. Cates.
Am. bkt. Ada L. White	W. H. White.
bk. Antonio Sala	J. H. Johnson.
Nor. bk. Artemis	E. E. Moe.
Ger. bk. Betty	S. Wohlmuth.
Am. sp. Berlin	J. W. Dickenson.
Br. sp. British Isles	G. Southcott.
Caesarea	J. C. Barrette
Am. sp. Chas. S. Whitney	Geo. D. Spicer.
Br. bkt. Childwall	T. O. Watson.
sp. City Camp	D. McLeod.
Ger. Columbus	B. Sauermilch.
Ger. sp. Derby	B. Fortmann.
bk. Diamant	H. Haesloop.
Am. schr. Emily Shepard	E Coggins.
Am. sc. Edward R. Emerson	A. H. Child.
Ger. bk. Freiheit	H. Spleska.
Dan. Galeon	H. H Kalsboll.
Ger. Godeffroy	C. H. Sinnig
Ger. sp. Georg	G. A. Scholtz.
Nor. bk. Grundloven	O. G. Ellingsen.
Am. bk. Havana	B. F. Rice.
Am. bkt. Harriet S. Jackson	W. T Bacon.
bk Harvester	W. Cassidy.
Ger. sp. Hedwig	Th. Minssen.
Am. schr. Henry Waddington	W H. Magee.
Br. sp. Hermon	F. N. Marvin.
Br. bg. Harry & Aubrey	J. N Tedford.
bk. Iodine	Adam Smith.
It. Ismuele	C. Fiodo.
Am. bg. Jane Adeline	G. W. Cates.
Am. bg John Wesley	J. H. Hines.
schr. Joseph Souther	J. W. Watts.
Br. bg. Kenilworth	P. Doig.
Ger. bk. Leocadia	J. Stohfft.
Am. bk. Levanter	A. F. Vesper.
Am. bg. L. & W. Armstrong	Albion Alexander.
Br. bg. Lilian	H. F. Schive.
Nor. bk. Lovspring	G. Thomsen.
Am. bkt. Louise Adelaide	Edgar Orr.
Br. bkt. Lydia	Geo. Lowery.
Am. schr. Maggie Abbott	D. C. McIntosh.
Am. bg. Mary Fink	Daniel B. Darrah.
sp. Mary L. Cushing	C. Downs.
Br. sp. Morna	J. H. Goodwin.
Am. schr. Nellie M. Slade	J. A. Gould.
Ger. sp. Palme	William Bahls.
Br. bk. Recovery	T. E Blagdon.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Am. Rembrandt	Capt. J. W. McGilvery.
Dan. bk Rialto	N. P. Hansen.
Br. bkt. Rosebud	John Collie.
It. bk. Rosina	G. Tomaselli.
Br. sp. Sardomeno	T. C. Pitt
Am. bk. Samuel B. Hale	A. S. Haven.
schr. Sarah D. J. Rawson	Thos. D. French.
Am. sp. St. David	W. W. Frost.
Br. sp. Servia	E. M. Smith
bk. Strathmuir	A. W. Flemming.
Nor. bk. Tros	Severin Brager.
Ger. sp. Union	H. Fokken.
Am. schr. Wm. H. Stuart	Charles Brown.
Ger. bk. Western Chief	F. Sander.
Am. Xenia	N. E. Reynolds.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Barclay.
U S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Enterprise	Albert S. Baker.
U S. S Galena	W. Chester.
U. S. S. Hartford	Charles M. Thomas
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	Com. B. F. Day.
U. S. S. Nipsic	Capt. W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	Wm. B. Newman.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	H. T. Monahon.
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsly.
U. S. S. Quinnebaug	C. S. Sperry.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	E. T. Windham.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Yantic	F. W. Green.
BRITISH NAVAL.	
H. M. S. Active	Com. R.O.B. Fitzroy, C.B.
H. M. S. Briton	Capt. R. M. Lloyd.
H. M. S. Bacchante	A. W. Moore.
H. M. S. Cleopatra	L. G. Keppel.
H. M. S. Champion	A. T. Powlett.
H. M. S. Cormorant	Nicolls.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Minotaur	B. F. Clark.
H. M. S. Myrmidon	R. T. Hoskyn
H. M. S. Mariner	J. Durnford.
H. M. S. Miranda	C. H. Cross.
H. M. S. Nelson	A. Lake.
H. M. S. Orontes	C. B Theobald.
H. M. S. Osprey	H. W. Dowding.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Rambler	W. U. Moore.
H. M. S. Ruby	C. F. Hocham, C.B.
H. M. S. Rifleman	C. G. Prater.
H. M. S. Superb	H. F. Cleveland.
H. M. S. Satellite	A. H. Alington.
H. M. S. Wanderer	
DUTCH NAVAL.	
Bromo	
Koningen Emma der Nederlander	
Prins Hendrick der Nederlander	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of January. 1886.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R. N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	J. C. McConney.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent, A. H. C.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Silloth Rectory	Rev. F. Redford, M. A.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning, M. D.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Sangeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Ivigtut	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labrone, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.

Stations.	Observers.
FRENCH—Continued.	
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Allnard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Valssade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vansseuat, Director.
Privas, Normal School	M. Tallien, Director.
Puy de Dôme Obs'y, Summit	M. Allnard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Yasermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Iothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Dhubri	
Chittagong	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Lecce	Prof. C. de Giorgi.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Caccintore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hatteri.
Awomori	K. Ogawa.
Fushiki	S. Tanad
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.

Stations.	Observers.
JAPANESE—Continued.	
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	E. Cappelletti.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zwalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjesvaer	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Akmolinski	Major K. Lasarow.
Archangel	Capt. Sselliwerstow.
Ashurada	
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	
Kertch	E. M. Zacmsipeyz.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the-Amoor	Schonberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Potl	
St. Petersburg	Central Physical Observatory.
Sevastopol	Colonobr.
Staroi Bykhov	Carl Hagen.
Tashkend Laboratory	Telch, A. M.
Tiflis	Physical Observatory.
Viatka	
Yeniseisk	Wishnewzky.
Sub-series.	
Petrowsky Academy	Bachmetieff.
SPANISH.	
Barcelona, Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gades, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandsson.
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Pointe à Petre	L. Guesde.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
San José de Costa Rica	John J. de Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF FEBRUARY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Norwegian	R. Carruthers.
Prussian	Alex. McDougal.
Scandinavian	John Park.
AMERICAN LINE.	
Br. s. s. British Princess	E. H. Freeth.
Lord Clive	P. Urquhart.
Ocean Prince	W. J. Milburn.
ANCHOR LINE.	
Br. s. s. Acadia	John McKeague.
Alexandria	Robert Pert.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Dorian	I. Swain.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Span. Alps	T. Anasagasti.
Br. Alvo	David Williams.
Span. Andes	D. de Amezaga.
Br. Antillas	B. Morán.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Jersey City	E. Horlor.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Pavonia	R. Woolfenden.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	Villiat.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
St. Germain	E. Traub.
Labrador	P. dé Hanterive.
St. Laurent	M. de Jousselin.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. W. H. Bates.
GUION LINE.	
Alaska	Capt. Geo. S. Murray.
Arizona	J Price, R. N. R.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Lessing	B. Voss.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con'd.	
Rugia	Capt. A. Albers.
Suevia	C. Ludwig.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Archimedes	W. H. Fairlem.
Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Belg. Hipparchus	W Kelly.
Br. Mozart	Wm. Spratly.
Olbers	Jas Clark.
Teniers	J. McAuley.
Thales	A. Matheson.
LEYLAND LINE.	
Br. s. s. Istrian	Robert Leask.
Leo	C. J Caines.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s s. Alamo	Sam. Risk.
Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Pontiac	J. H. Martin.
Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptain Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Lydian Monarch	Thos. C. Huggett.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Chalmette	Robert B. Quick.
Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Erin	John Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
Italy	James Sumner.
The Queen	J. Sumner
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Gottardo	G. Dilliberto.
Plata	Luigi Cassovich.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rettig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Ems	W. Willigerod
Fulda	R. Ringk.
Hermann	H. Baur.
Main	H. Christoffers.
Neckar	F. Pfeiffer.
Werra	Richard Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R. N. R
Oceanic	John Metcalfe.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	Capt K. S. Nickerson.
Juniata	S. L. Askins.
Chattahoochee	J. W. Catherine.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Ancon	Th. Wallace.
Orizaba	John N. Ingalls.
Santa Rosa	C. B. Johnson.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
Australia	R. C. Ghost.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	H. C. Dearborn.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
Zealandia	Henry Webber.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Theresena	I. Hempthorne.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Meyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Leerdam	P. Slierendregt.
Schiedam	G. Bakker.
Zaandam	H. von der Zee.
ROYAL W. I. MAIL S. S. Co.	
Dtch. Oranje Nassau	J. A. J. Lacroy.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Nebraska	A. G. Brass.
State of Nevada	John A. Stewart.
State of Pennsylvania	Alfred Mann.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Thingvalla	S. T. H. Laub.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
U. S & BRAZIL MAIL S. S. Co.	
Am. s. s Advance	Jas. R. Beers.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Roman	D. Williams.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Pieter de Coninck	E. Smit.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF FEBRUARY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
APRIL, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, FEBRUARY, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	O	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.85	758.2	29.97	761.2	65.5	18.6	54	.....	.....	1	4	11	5	1	.....	6	6948	9733	4	0.36	9.1
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.59	751.6	29.78	756.4	55.9	13.3	83	3	5	2	10	4	2	.....	2	.....	.....	.....	7	2.26	57.4
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.84	757.9	29.92	760.0	60.9	16.1	74	3	2	5	4	2	11	1	.....	.....	.....	.....	6	1.53	38.9
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.57	751.1	30.15	765.7	34.9	1.6	77	.....	.....	1	2	.....	4	6	15	.....	.....	.....	8	1.20	30.6
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.41	747.0	30.24	768.1	25.5	— 3.6	89	3	.....	1	4	1	.....	12	7	.....	.....	.....	8	0.91	23.2
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.24	742.7	30.17	766.4	25.5	— 3.6	84	1	.....	.....	.....	4	.....	.....	23	.....	.....	.....	6	2.00	50.7
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.84	732.4	30.14	765.6	34.0	1.1	77	.....	.....	2	12	8	4	1	1	.....	.....	.....	7	0.51	12.9
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.70	729.0	30.13	765.2	31.1	— 0.5	86	.....	1	3	1	.....	.....	4	8	11	.....	.....	8	0.58	14.7
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.19	741.3	30.25	768.3	28.0	— 2.2	71	1	.....	.....	1	2	10	8	6	.....	.....	.....	6	0.59	14.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.91	759.7	30.03	762.7	45.3	7.4	63	2	2	6	2	.....	1	5	8	2	.....	.....	5	1.78	45.2
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.66	753.4	30.15	765.9	37.8	3.2	65	5	1	8	.....	5	2	3	4	.....	.....	.....	5	0.66	16.7
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.83	757.7	30.13	765.3	33.8	1.0	81	2	1	1	3	1	8	2	10	.....	.....	.....	8	1.39	35.2
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.95	760.8	30.05	763.3	43.3	6.3	52	.....	1	1	1	.....	.....	2	21	2	.....	.....	5	0.87	22.1
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.40	746.8	30.16	766.1	29.8	— 1.2	82	3	4	1	.....	1	12	1	3	3	.....	.....	8	0.41	10.4
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.79	756.6	29.96	760.9	77.7	25.4	77	.....	14	.....	1	.....	5	1	1	6	.....	.....	7	7.02	178.2
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	30.00	762 0	30.13	765.3	36.9	2.7	76	1	1	7	1	8	6	2	2	.....	9065	14588	6	2.08	52.8
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.14	765.5	38.1	3.4	79	.....	2	3	.....	.....	14	8	1	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.79	756.7	30.12	765.0	37.0	2.8	81	5	5	1	3	3	2	3	6	.....	.....	.....	8	0.69	17.5
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.92	760.0	29.87	758.7	81.6	27.6	71	.....	.....	.....	.....	.....	.....	5	23	.....	.....	.....	3	.....	.....
Chatham b	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.95	760.7	30.16	766.1	35.3	1.8	88	.....	.....	1	.....	3	.....	.....	2	20	.....	.....	3	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.92	760.0	30.14	765.5	41.4	5.2	80	3	2	2	1	4	4	8	4	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.57	700.3	29.83	757.7	82 5	28.1	62	7	1	.....	.....	2	8	3	7	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.65	753.1	29.82	757.4	81.0	27.2	80	8	.....	.....	4	3	7	2	3	.....	1	.....	1	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.98	761.5	30.04	763.0	42.3	5.7	75	1	1	3	7	6	3	5	8	.....	.....	.....	7	2.65	67.3
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	.....	.....	.....	.....	56.7	13.7	85	1	9	3	4	.....	.....	3	2	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.95	760 7	30.15	765.8	35.8	2.1	84	6	.....	2	2	3	1	2	11	1	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.81	757.2	30.13	765.3	41.0	5.0	83	6	2	.....	.....	3	4	4	9	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.11	764.8	30.15	765.8	35.7	2.1	79	7	2	3	.....	3	2	2	9	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.86	758.4	30.14	765.5	36.7	2.6	77	3	.....	1	10	.....	2	1	9	2	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.87	758.7	29.92	760.0	56.9	13.8	84	.....	11	1	6	.....	5	1	4	.....	.....	.....	6	.....	.....
Nassau a	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.06	763.5	30.06	763.5	73.9	23.3	79	5	1	1	1	2	5	7	6	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.90	759.4	30.25	768.3	35.8	2.1	76	4	1	2	3	4	2	1	9	2	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	30.04	763.0	30.12	765.0	40.2	4.6	80	.....	4	1	2	1	1	7	7	5	.....	.....	8	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.96	761.0	30.08	764.0	39.1	3.9	79	.....	3	2	1	5	8	5	3	1	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.97	761.2	30.03	762.7	46.6	8.1	86	12	1	.....	4	3	.....	.....	7	1	.....	.....	8	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.15	765.8	36.3	2.4	80	3	1	3	4	2	2	8	5	.....	.....	.....	8	1.07	27.2
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	30.04	763.0	30.09	764.3	44.6	7.0	84	1	3	3	3	4	4	6	4	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.56	750.8	29.94	760.5	56.9	13.8	71	1	8	4	4	2	3	6	.....	.....	8595	5341	7	2.98	75.7
Canadian.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.90	759.5	29.95	760 7	8.4	—13.1	.....	2	4	10	3	.....	3	.....	.....	6	.....	.....	6	0.89	22.6
Bird Rocks	N. 37 50	W. 61 10	7.56 a.m.			29.76	755.9	29.89	759.2	17.6	— 8.0	78	6	5	3	5	2	1	5	1	.....	.....	.....	8	0.65	16.5
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.87	758.7	29.91	759.7	17.0	— 8.3	91	5	3	3	4	5	3	1	1	3	6374	10258	6	2.10	54.9
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.87	758.7	29.94	760.5	9.2	—12.7	94	1	4	8	6	2	.....	.....	6	1	4320	6952	5	3.56	90.4
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.82	757.4	30.04	763.0	7.9	—13.4	87	4	1	11	2	1	1	6	2	.....	.....	.....	7	1.54	39.1
Dalhousie a	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.87	758.7	29.94	760.5	6.9	—13.9	.....	1	.....	17	.....	.....	.....	2	.....	7	.....	.....	5	2.55	64.8
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.95	760.7	29.98	761.5	6.8	—14.0	91	2	7	2	7	2	.....	2	2	3	8389	13491	5	0.50	12.7
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.24	742.7	30.19	766.8	— 5.0	—20.6	92	7	7	1	.....	6	.....	2	2	3	6701	10784	9	4.66	118.4
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.78	756.4	29.99	761.7	11.1	—11.6	85	4	10	4	.....	.....	1	4	1	4	6720	10809	7	2.37	60.2
Grand Manan	N. 44 46	W. 99 45	7.33 a.m.	49	15	29.90	759.4	29.96	761.0	21.1	— 6.1	84	2	9	2	3	1	2	1	3	5	10144a	16326a	6	2.90	73.7
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28 91	734 3	30.13	765.3	15.0	— 9.4	96	5	1	2	2	4	1	1	1	11	4176	6720	6	3.84	97.5
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.81	757.2	29.95	760.7	22.0	— 5.6	87	4	3	8	2	5	1	.....	2	3	.....	.....	6	1.04	41.7
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.68	753.8	30.12	765.0	17.8	— 7.9	81	3	4	9	7	1	1	.....	3	.....	.....	.....	6	3.84	97.5
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.70	754.4	30.07	763.8	11.6	—11.3	86	3	2	5	3	.....	2	9	1	5009	8206	7	3.41	86.6
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.83	757.7	29.87	758.7	23.9	— 4.5	89	3	4	3	9	5	1	.....	2	1	.....	.....	.....	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.13	739.9	30.10	764.5	10.8	— 8.4	90	1	4	1	2	4	.....	.....	.....	16	2929	4714	7	3.23	82.0
Medicine Hat b	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.61	701.3	30.01	762.2	25.1	— 3.8	73	2	2	3	4	4	.....	.....	3	8	6836	11001	5	0	0
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.11	714.0	30.19	766.8	— 5.6	— 20.9	97	4	3	5	.....	1	1	3	0	5	6594	10612	4	0.50	12.7
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.53	750.0	30.05	763.3	6.7	—12.9	87	5	1	8	6	4	.....	1	3	.....	.....	.....	6	1.77	45.0
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.81	757.2	30.08	764.0	5.6	—14.7	90	1	10	2	4	.....	.....	7	4	.....	.....	.....	6	2.20	55.9
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.29	744.0	30.07	763.8	8.2	—13.2	80	5	.....	6	.....	4	3	9	.....	1	7992	12862	5	3.91	76.5
Peterborough a	N. 44 17	W. 78 18	6.47 a.m.	668	204	.....	.....	.....	.....	9.6	—12.4	92	2	5	1	2	1	2	3	.....	11	.....	.....	0	2.57	65.3
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.30	744.2	30.09	764.3	0.2	—17.7	91	7	4	6	1	.....	.....	1	2	7	3861	6214	4	1.75	44.4
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.35	745.5	30.09	764.3	16.9	— 8.4	96	3	2	5	3	5	.....	.....	1	9	6390	10284	0	3.23	82.0
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.39	740.5	30.08	764.0	17.8	— 7.9	87	4	5	5	5	.....	1	6	2	.....	.....	.....	7	2.84	72.1
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.63	701.8	30.15	765.8	2.1	—16.6	.....	.....	5	1	8	4	3	2	.....	5	9198	14802	6	0.80	20.3
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.61	752.1	30.00	762.0	7.6	—13.6	80	.....	4	5	6	1	1	2	0	3	.....	.....	6	2.88	73.2
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.57	751.1	30.09	764.3	— 0.7	—18.2	78	.....	6	4	.....	.....	1	8	1	8	.....	.....	6	2.09	53.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.87	758.7	29.92	760.0	15.8	— 9.0	98	5	7	.....	3	1	2	1	4	5	.....	.....	5	3.93	99.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.82	757.4	29.96	761.0	10.0	— 8.9	87	5	10	2	3	1	2	2	1	.....	.....	.....	6	5.05	128.3
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.84	757.9	30.4	— 0.9	.....	1	5	5	6	.....	5	3	3	.....	.....	.....	.....	2.28	58.1
Sangeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.27	743.4	30.05	763.3	14.0	— 9.7	92	1	3	1	4	7	3	1	4	4	7722	12427	6	2.40	61.0
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.			29.78	756.4	29.82	757.4	12.0	—11.1	88	6	5	2	.....	12	.....	.....	2	.....	.....	.....	6	2.92	57.3
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.73	729.7	30.12	765.0	14.9	— 9.5	85	2	5	4	3	8	1	2	2	1	.....	.....	6	2.55	64.8
Swift Current	N. 50 21	W. 107 33	4.50 a.m.			27.28	692.9	30.08	764.0	14.4	— 9.8	.....	1	.....	9	2	10	3	2	1	.....	.....	.....	5	0.70	17.8
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.84	757.9	29.90	759.4	20.4	— 6.4	91	3	2	4	6	7	1	1	.....	4	7814	12575	6	2.66	67.6
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.67	753.6	30.09	764.3	15.8	— 9.0	88	2	8	5	4	3	.....	1	4	1	.....	.....	7	2.83	71.9
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.13	739.9	30.10	764.5	15.3	— 9.3	81	5	4	4	4	6	1	2	.....	2	.....	.....	7	1.51	38.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.88	758.9	29.98	761.5	22.2	— 5.4	99	1	8	4	4	1	3	4	3	.....	.....	.....	7	4.39	111.5
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.71	754.6	29.90	759.4	26.7	— 2.9	93	2	1	7	4	6	3	.....	5	.....	.....	.....	5	5.86	148.8
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	29.95	760.7	29.95	760.7	72.4	22.4	93	.....	.....	7	4	2	3	9	.....	3	.....	.....	3	1.03	26.2
Springbok	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.70	678.2	.....	.....	85.8	29.9	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.46	11.7
Chinese.																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	30.06	763.5	30.12	765.0	53.7	12.1	78	5	1	.....	.....	.....	.....	11	11	.....	.....	.....	9	1.54	39.1
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 12 26	8.06 p.m.	23	7	30.37	771.4	30.35	770.9	33.6	0.9	76	13	1	3	1	1	3	4	2	.....	.....	.....	7	1.89	48.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1886.																			Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.										Average Cloudiness.		
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
DANISH.	° ′	° ′																								
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	30.17	766 3	30.25	768.3	30.2	— 1.0	86	2	.....	.....	2	5	3	8	8	.....	.....	.....	10	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	30.15	765.9	30.21	767.2	28.9	— 1.7	92	1	1	.....	3	3	3	10	7	.....	.....	.....	8	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.62	752.3	29.71	754.7	25.9	— 3.4	87	.....	.....	2	3	4	6	2	5	6	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.86	758.5	29.93	760.1	39.4	4.1	77	5	2	1	7	4	5	1	1	2	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	30.10	764.4	30.22	767.7	29.5	— 1.4	90	1	1	1	1	3	5	5	11	.....	.....	.....	9	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.41	746.9	30.09	764.3	44.1	6.7	82	.....	4	5	2	.....	8	.....	.....	9	.....	.....	8	1.80	45.6
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.60	751.8	30.16	766.0	38.1	3.4	83	3	1	.....	2	6	1	.....	15	.....	.....	.....	.....	0.59	15.0
Arras	N. 50 18	E. 2 46	0.11 p m.	223	68	29.88	759.0	30.15	765.7	35.8	2.1	82	3	3	1	5	2	7	3	1	3	.....	.....	6	0.79	20.0
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.95	760.6	30.02	762.6	48.0	8.9	58	14	8	1	1	.....	4	.....	.....	.....	.....	.....	.....	0.50	12.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.51	749.6	30.10	764.6	37.0	2.8	82	1	1	.....	3	4	7	9	3	.....	.....	.....	7	1.15	29.1
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.76	755.9	30.07	763 7	37.0	2.8	87	6	13	4	.....	.....	.....	.....	4	1	.....	.....	6	1.08	27.5
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.11	739.5	30.04	763.0	38.7	3.7	79	3	1	.....	1	4	2	11	6	.....	.....	.....	.....	2.41	61.1
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.80	756.9	30.07	763.8	44.2	6.8	74	3	6	3	2	1	4	7	2	.....	.....	.....	5	1.90	48.2
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.48	748.9	30.05	763.3	40.3	4.6	78	3	7	8	.....	.....	3	2	5	.....	.....	.....	.....	1.19	30.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.85	758.2	30.10	764.6	45.0	7.2	82	.....	1	1	4	1	3	3	14	1	.....	.....	7	2.56	65.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	30.01	762 2	30.10	764.5	40.1	4.5	91	1	3	.....	4	1	2	1	16	.....	.....	.....	7	0.79	20.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.77	756.1	30.11	764.8	36.7	2.6	85	3	4	2	3	2	5	1	8	.....	.....	.....	5	0.63	16.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.50	749.3	30.08	763.9	36.5	2.5	86	6	3	.....	4	4	2	1	5	3	.....	.....	6	0.57	14.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.67	728.1	30.04	763.0	41.4	5.2	66	7	6	3	4	4	2	2	.....	.....	.....	.....	7	0.80	20.2
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.21	742.0	30.09	764.3	39.2	4.0	80	4	4	5	2	1	4	.....	5	3	.....	.....	6	1.80	45.7
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	28.97	735.9	29.89	759.3	33.6	0.9	94	1	3	6	1	.....	4	10	3	.....	.....	.....	6	.....	.....
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.43	696.8	30.06	763.6	39.9	4.4	57	1	.....	.....	.....	.....	.....	.....	7	2	18	.....	.....	2.06	52.4
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.85	732.7	29.99	761.8	46.9	8.3	65	6	10	1	1	1	6	3	.....	.....	.....	.....	6	2.28	57.9
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.37	745.9	30.16	766.1	38.7	3.7	78	1	2	2	.....	.....	1	7	7	8	.....	.....	.....	1.95	49.6
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28 42	721.9	30.03	762.8	38.3	3.5	77	5	2	1	7	.....	4	.....	3	6	.....	.....	.....	1.65	42.0
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.43	747.5	30.02	762.6	49.5	9.7	62	2	3	7	4	1	.....	4	7	.....	.....	.....	.....	3.46	87.9
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	30.00	762.0	30.13	765.2	44.4	6.9	84	3	1	2	1	1	4	3	13	.....	.....	.....	6	1.36	34.6
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.99	736.4	30.09	764.2	38.1	3.4	76	10	1	1	.....	5	5	4	2	.....	.....	.....	6	0.53	13.4
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.79	756.6	30.12	765.1	39.4	4.1	80	2	1	2	1	1	6	4	11	.....	.....	.....	6	1.30	32.9
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.71	754.7	29.98	761.6	50.4	10.2	60	.....	6	9	.....	2	1	7	3	.....	.....	.....	.....	2.39	60.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.75	628.6	29.59	751.6	35.4	1.9	78	1	3	2	16	.....	4	2	.....	.....	.....	.....	5	2.33	59.1
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.87	758.7	29.98	761.4	49.8	9.9	50	10	9	2	.....	.....	1	1	4	1	.....	.....	3	1.23	31.2
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.69	601.6	.....	.....	.....	.....	.....	3	4	2	1	5	9	1	3	.....	.....	.....	3	3.34	84.7
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.30	744.3	30.13	765.4	33.6	0.9	82	9	1	.....	3	2	5	5	3	.....	.....	.....	.....	0.09	2.3
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.96	761.0	30.13	765.3	42.1	5.6	77	4	1	2	1	1	2	10	7	.....	.....	.....	7	0.75	19.1
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.88	758.9	29.94	760 4	54.5	12.5	70	1	.....	.....	.....	.....	2	1	8	16	.....	.....	5	0.47	12.0
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.92	759 9	30.03	762.8	49.6	9.8	59	1	13	2	.....	.....	1	4	7	.....	.....	.....	6	3.09	78.5
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.02	533.9	.....	.....	19.2	— 7.1	.....	.....	3	7	3	.....	.....	2	6	7	.....	.....	.....	1.05	26.7
Privas. ....[mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.96	735.5	30.05	763.3	42.1	5.6	78	15	1	1	.....	6	1	2	.....	2	.....	.....	.....	0.51	13.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.03	635.8	.....	.....	27.1	— 2.7	82	3	3	4	2	5	1	4	6	.....	.....	.....	5	4.60	116.7
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.04	763.0	30.07	763.8	44.4	6.9	75	5	1	2	.....	4	5	3	8	.....	.....	.....	6	1.01	25.7
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.78	756 5	30.09	764.2	41.5	5.3	80	5	.....	1	.....	.....	7	8	7	.....	.....	.....	6	0.94	23.8
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.86	707.7	30.05	763.3	40.3	4.6	66h	11	4	2	.....	.....	1	.....	1	.....	.....	.....	.....	1.66	42.2
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.07	763.7	30.13	765.2	38.8	3.8	78	7	2	2	1	1	2	7	6	.....	.....	.....	7	0.95	24.1
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	.....	.....	30.11	764.8	37.4	3.0	77	11	3	.....	3	3	2	1	5	.....	.....	.....	7	0.98	24.9
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.37	746.0	30.10	764.4	44.6	7.0	79	1	10	4	1	.....	7	3	.....	2	.....	.....	8	1.90	48.3
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.91	759.7	30.10	764.4	41.9	5.5	75	7	3	2	3	2	.....	.....	11	.....	.....	.....	.....	1.28	32.5
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.94	760 5	30.09	764.3	47.5	8.6	72	7	1	5	3	1	3	8	.....	.....	.....	.....	6	3.37	85.5
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.62	726,9	30.15	765.7	33.3	0.7	69	.....	.....	1	3	1	4	7	3	9	.....	.....	5	0.44	11.1
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.24	742.8	30.07	763.8	32.7	0.4	70	5	2	.....	3	.....	6	4	5	3	.....	.....	7	0.51	13.0
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	30.03	762.8	30.21	767.2	34.9	1.6	73	.....	.....	3	3	.....	3	17	2	.....	.....	.....	8	0.31	8.0
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.65	753.1	30.18	766.5	27.3	— 2.6	84	2	1	1	1	1	8	10	4	.....	.....	.....	7	0.32	8.2
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.38	746.2	30.10	764.4	31.3	— 0.4	82	1	1	.....	2	2	.....	1	1	20	.....	.....	7	1.41	35.8
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.74	755.4	30.18	766.5	34.3	1.3	65	2	.....	1	4	1	3	9	8	.....	.....	.....	7	0.86	21.8
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.63	727.3	30.11	764.9	32.4	0.2	80	3	1	1	8	.....	2	2	11	1	.....	.....	8	1.05	26.7
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	30.08	764.0	30.21	767.2	28 6	— 1.9	85	1	.....	1	3	1	3	15	4	.....	.....	.....	8	0.59	15.0
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	30.16	766.0	30.13	765.4	30.2	— 1.0	82	1	.....	.....	3	4	4	10	6	.....	.....	.....	9	0.96	24.3
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.71	754.7	30.17	766.4	29.5	— 1.4	86	3	2	.....	3	.....	4	4	12	.....	.....	.....	8	0.29	7.3
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.32	770.0	30.37	771.5	24.1	— 4.4	84	.....	1	2	3	.....	15	5	2	.....	.....	.....	7	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.21	716.4	30.07	763 8	30.4	— 0.9	79	1	2	3	.....	2	13	9	3	1	.....	.....	7	0.59	15.1
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.26	768.6	30.31	769.8	25.3	— 3.7	86	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1.02	26.0
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.57	751 1	30.09	764.3	33.8	1.0	81	5	1	2	.....	3	.....	3	4	6	.....	.....	7	0.89	22.7
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	633	254	29.19	741.3	30.15	765.8	34.9	1.6	72	.....	1	2	3	2	5	1	14	.....	.....	.....	5	0.24	6.2
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.17	766.4	30.22	767.5	28.2	— 2.1	89	1	.....	.....	1	2	12	6	5	1	.....	.....	8	0.28	7.0
GREEK.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.61	752.2	29.97	761.2	54.1	12.3	71	3	.....	2	3	2	2	.....	16	.....	.....	.....	7	3.02	76.7
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.96	760.9	29.96	760.9	76.5	24.7	29	1	2	7	6	1	1	6	4	.....	.....	.....	3	0.02	0.5
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.48	748.8	29.90	759.4	82.6	28.1	13	7	2	9	1	.....	1	.....	8	.....	.....	.....	3	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.89	759 1	29.86	758.5	77.3	25.2	65	9	18	1	.....	.....	.....	.....	.....	.....	.....	.....	1	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.04	712.3	29.80	756.8	88.5	31.4	15	2	8	7	2	2	2	2	3	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.34	694.4	29.76	755.9	85.0	29.4	27	.....	.....	6	2	2	3	13	2	.....	.....	.....	1	0	0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.28	743.6	29.98	761.4	64.2	17.9	36	2	11	7	2	1	1	2	1	.....	.....	.....	4	0.20	5.1
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.03	737.4	29.91	759.8	67.2	19.6	40	.....	1	21	.....	.....	.....	.....	.....	5	.....	.....	3	0.70	17.8
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.40	746.8	29.93	760.2	74.3	23.5	25	5	11	9	.....	.....	1	1	1	.....	.....	.....	2	0	0
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.87	733.3	29.84	757.9	85.0	29.4	26	2	4	1	3	3	3	7	4	1	.....	.....	3	0.34	8.6
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.60	726.3	29.90	759.4	77.4	25.2	26	3	9	1	.....	.....	1	.....	2	12	.....	.....	1	0.10	2.5
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.56	750.7	29.90	759.3	71.0	21.7	29	19	5	.....	.....	.....	.....	.....	2	12	.....	.....	2	0	0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.64	752.7	29.90	759.6	73.8	23.2	34	.....	20	5	.....	.....	.....	1	.....	2	.....	.....	2	0.04	1.0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.90	708.8	29.89	759.2	70.3	21.3	26	3	17	7	.....	.....	.....	1	.....	.....	.....	.....	2	0	0
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.92	759 8	29.88	759.0	74.1	23.4	47	1	3	7	6	1	.....	.....	.....	10	.....	.....	1	0	0
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.79	756.7	29.86	758.5	70.9	21.6	48	1	.....	.....	3	1	.....	.....	2	21	.....	.....	1	0.32	8.1
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.59	751.7	29.89	759.3	64.8	18.2	77	2	.....	.....	8	.....	.....	1	17	.....	.....	.....	4	0.90	22.9
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.52	724.5	29.94	760.4	73.2	22.9	26	9	9	3	1	.....	1	1	4	.....	.....	.....	4	0	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.38	721.0	29.75	755.6	89.4	31.9	24	4	2	.....	.....	1	11	9	1	.....	.....	.....	0	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.67	753.6	29.87	758.8	86.7	30.4	47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0	0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.58	751.2	30.00	762.0	43.7	6.5	56	1	1	1	1	.....	4	14	.....	6	.....	.....	5	0.69	17.6
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.75	755.6	30.28	769.2	41.2	5.1	73	2	1	4	9	1	2	4	5	.....	.....	.....	8	1.29	32.8
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.94	760.5	30.05	763.3	42.8	6.0	65	6	4	.....	.....	.....	2	3	12	1	.....	.....	6	0.44	11.2
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.14	740.2	30.08	764.0	37.2	2.9	76	.....	6	4	.....	3	1	11	3	.....	.....	.....	6	1.29	32.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.80	757.0	30.00	762 0	47.1	8.4	58	18	.....	.....	1	.....	.....	1	4	2	.....	.....	2	0.25	6.4
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.98	761.6	30.04	762.9	43.3	6.3	79	4	20	1	.....	.....	1	1	1	.....	.....	.....	4	0.26	6.4
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.72	755.0	29.98	761.6	48.6	9.2	63	4	1	1	.....	.....	5	16	.....	.....	.....	.....	8	2.55	64.7
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.89	759.3	29.98	761.5	50.9	10.5	53	1	2	2	1	1	.....	9	12	.....	.....	.....	6	1.04	26.4
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.75	755.7	29.93	760.3	52.7	11.5	57	8	3	3	6	1	3	4	.....	.....	.....	.....	6	1.82	46.2
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.04	737.6	29.95	760 7	50.4	10.4	73	1	6	10	4	1	4	.....	2	.....	.....	.....	6	3.30	83.8
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.69	754.0	29.94	760 4	57.9	14.4	65	.....	5	4	3	1	.....	.....	13	2	.....	.....	7	8.67	220.3
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.89	759.1	29.93	760.2	56.5	13.6	73	6	2	3	4	1	•3	3	6	.....	.....	.....	7	1.93	49.1
																								6	4.02	102.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	N E	C	Miles	Kil.		Inch.	Mill.
ITALIAN—Con.																												
Sub-Series.	° ′	° ′																										
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	21.97	557.9	.....	.....	18.0	— 7.8	74	.....	.....	1	6	1	6	4	10	.....	.....	.....	4	0.10	2.5
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	21.97	558.1	.....	.....	20 1	— 6.6	73	2	3	8	7	.....	3	4	1	.....	.....	.....	6	1.46	37.0
JAPANESE.																												
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.94	760.5	29.96	761.1	27.0	— 2.8	80	5	4	10	.....	.....	2	.....	7	.....	.....	8	4.33	109.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.90	759.5	29.93	760.2	23.6	— 4.7	79	2	1	10	7	7	.....	1	.....	.....	8005	12880	7	4.35	110.6
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	14	30.08	764.1	30.07	763.9	31.9	— 0.1	80	2	.....	4	4	5	.....	.....	.....	13	3434	5526	8	8.22	208.9
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.06	763 4	30.09	764.2	33.3	0.7	83	6	10	2	.....	1	.....	.....	.....	9	.....	.....	5	3.51	89.2
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.88	758 9	29.88	758.9	25.7	— 3.5	81	4	7	11	2	1	1	.....	.....	2	7994	12865	6	1.47	37.0
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.95	760.7	30.02	762.6	36.1	2.3	64	2	8	13	.....	1	.....	1	1	2	.....	.....	3	1.82	46.2
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.18	766.6	30.17	766.3	33.6	0.9	78	14	3	4	1	.....	.....	1	1	4	3165	5094	4	2.55	64.6
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	30.00	762.0	30.00	762.0	31.3	0.2	86	.....	4	8	3	4	1	2	1	5	5758	9265	9	10.79	273.2
Kuzo-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.23	767.7	30.20	767.2	38.2	3.4	77	12	4	.....	.....	.....	1	1	9	2154	3467	6	2.51	63.8
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.95	760 8	30.11	764.8	32.6	0.3	76	4	9	9	2	.....	.....	1	2	1	2949	4746	5	1.87	47.1
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.13	765 3	30.12	765.1	38.8	3.8	68	3	10	4	.....	1	.....	6	2	2	6220	10005	5	3.27	83.1
Miyaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.18	766.6	30.17	766.4	38.7	3.7	73	3	.....	22	.....	2	.....	1	.....	.....	6086	9794	4	2.38	60.4
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.81	757.2	29.91	759.7	28.4	— 2.0	73	.....	.....	14	9	5	.....	.....	.....	.....	2852	4590	4	0.46	11.8
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	30.04	762.8	30.22	767.5	36.7	2.6	74	9	7	1	2	.....	1	1	3	4	3798	6112	6	3.49	88.6
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.73	755.1	29.77	756.2	24.7	— 4.0	62	3	3	8	3	5	.....	1	.....	5	5950	9575	3	0.88	21.9
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.98	761.6	30.02	762.5	31.8	— 0.1	81	.....	1	13	3	4	3	.....	.....	4	6607	10632	9	5.80	147.3
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.95	760.6	29.95	760 6	29.6	— 1.3	83	8	6	7	.....	1	.....	.....	.....	6	11624	18702	4	0.49	12.3
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.92	759.9	29.99	761.0	38.1	3.4	65	3	1	5	4	1	.....	6	8	.....	6387	10277	2	1.79	45.5
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.09	764.3	30.11	764.9	35.1	1.7	79	5	7	8	.....	.....	1	1	3	3	8751	14083	4	1.45	36.9
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.15	765.8	30.13	765.4	34.3	1.3	75	4	.....	19	2	.....	.....	1	.....	2	5845	9406	8	3.21	81.6
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.07	763.6	30.17	766.3	36.3	2.4	72	5	8	4	1	.....	.....	3	2	5	.....	.....	6	2.57	65.3
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.72	754.9	29.76	755.9	24.9	— 4.0	93	2	5	9	2	3	.....	2	3	2	.....	.....	8	1.25	31.7
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.78	756.5	29.85	758 2	22.7	— 5.2	78	3	5	2	2	10	1	1	.....	4	5320	8561	7	2.04	52.0
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.91	759.8	29.97	761.3	35.4	1.9	70	5	13	.....	.....	1	8	.....	1	.....	4749	7643	3	1.07	27.1
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.09	764.3	30.12	764.9	37.0	2.8	71	6	8	3	.....	.....	.....	1	1	9	3049	4906	6	1.97	50.2
MAURITIUS.																												
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.71	754.6	29.84	757.9	83.1	28.4	66	1	1	1	1	.....	4	17	3	.....	.....	.....	6	4.26	108.2
MEXICAN.																												
Guannjuato	N. 21 01	W.101 10	5.15 a.m.	6762	2061	23.66	601.0	29.83	757.7	47.9	8.8	68	.....	1	4	5	2	2	.....	12	2	.....	.....	4	0.27	6.8
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.33	618.0	30.10	764.5	46.7	8.2	77	7	12	4	2	1	.....	1	1	.....	.....	.....	6	0.36	9.1
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.71	754.6	29.92	760.0	67.6	19.8	79	.....	6	.....	.....	.....	7	7	8	.....	.....	.....	3	0.24	6.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.11	586.9	30.16	766.1	45.3	7.4	75	.....	6	.....	1	.....	.....	.....	.....	21	.....	.....	4	0.81	20.5
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.40	594.4	30.09	764.2	50.2	10.1	68	1	5	2	2	1	.....	1	2	14	.....	.....	3	0.77	19.5
Zacatecas	N. 22 47	W.102 26	5.10 a.m.	8100	2469	.....	.....	.....	.....	40.1	4.5	75	.....	.....	.....	15	.....	11	.....	.....	2	.....	.....	4	0.32	8.0
NETHERLANDS.																												
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.13	765.4	30.15	765.9	33.8	1.0	.....	4	1	1	2	.....	4	3	13	.....	.....	.....	.....	0.50	12.6
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	30.08	764.0	30.15	765.9	30.4	— 0.9	.....	.....	1	3	.....	2	6	15	1	.....	.....	.....	.....	0.96	24.6
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.12	765.2	30.15	765.7	31.5	— 0.3	.....	1	2	1	1	.....	6	8	9	.....	.....	.....	.....	1.00	25.5
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.12	765.2	30.15	765.7	33.1	0.6	.....	2	1	2	1	.....	1	4	13	4	.....	.....	.....	0.34	8.5
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	30.08	764.1	30.15	765.8	32.4	0.2	.....	6	2	.....	3	1	2	8	6	.....	.....	.....	3	0.47	11.9
Sub-Series.																												
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.75	755.6	78.4	25.8	89	6	8	5	1	1	.....	.....	.....	7	.....	.....	9	12.28	312.
NORWEGIAN.																												
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	30.11	764.7	30.21	767.3	33.6	0.9	76	.....	1	.....	4	13	4	1	1	4	.....	.....	5	2.70	68.5
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	30.09	764.3	30.18	766.6	34.3	1.3	62	.....	.....	3	2	5	7	7	.....	4	.....	.....	5	1.19	30.3
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	30.13	765.4	30.33	770 3	27.7	— 2.4	78	2	.....	6	.....	2	2	4	10	2	.....	.....	9	0.37	9.4
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.92	760.0	30.01	762.2	30.2	— 1.0	.....	2	2	2	10	6	2	.....	.....	4	.....	.....	7	1.35	34.2
PORTUGUESE.																												
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.04	762.9	30.09	764.3	60.6	15.9	66	1	1	3	8	3	6	5	1	.....	.....	.....	5	2.93	74.5
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.76	755.8	30.08	764.1	52.7	11.5	71	8	3	3	1	3	2	3	5	.....	.....	.....	6	2.27	57.6
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.14	765.5	30.19	766.8	58.6	14 8	72	5	2	.....	3	4	1	7	5	1	.....	.....	4	2.80	71.2
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.95	760.7	29.92	760 0	74.8	23.8	64	24	.....	.....	.....	.....	.....	1	3	.....	.....	.....	5	0.27	6.9
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.00	711.2	29.74	755.3	83.5	28.6	60	2	3	7	6	6	.....	.....	.....	4	.....	.....	7	6.29	159.8
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	.....	.....	.....	.....	36.0	2.2	77	1	1	10	4	.....	6	6	.....	.....	.....	.....	6	5.71	145.0
RUSSIAN.																												
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	30.43	772.9	30.50	774.7	14.4	— 9.8	82	2	1	.....	7	9	2	2	.....	5	.....	.....	6	0	0
Ashurada	N. 36 54	E. 53 55	3.36 p.m.	79	24	30.49	774.4	30.37	771.4	42.8	6.0	73	14	6	2	1	.....	.....	1	4	.....	.....	.....	7	1.06	26.8
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.62	777.6	30.54	775.7	19.9	— 6.7	63	3	1	.....	.....	.....	4	14	4	2	.....	.....	4	0	0
Baku	N. 40 21	E. 49 51	3.19 p.m.	39	12	30.41	772.4	30.35	770.9	38.1	3.4	78	9	2	.....	1	1	4	4	3	4	.....	.....	8	1.30	33.1
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	30.10	764.5	30.09	779.5	— 6.7	—21.5	71	.....	.....	.....	10	1	1	.....	1	15	.....	.....	3	0.19	4.9
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	223	68	30.22	767.6	30.51	774.9	18.7	— 7.4	79	1	.....	3	3	3	8	8	2	.....	.....	.....	6	0.68	17.4
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	892?	272?	29.51	749.6	30.60	777.2	13.5	—10.3	71	1	.....	17	1	.....	4	...	.....	5	.....	.....	4	0.08	2.0
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	417?	127?	29.91	759.6	30.40	772.1	24.8	— 4.0	76	1	.....	.....	.....	2	4	13	5	3	.....	.....	6	0.05	1.3
Irkutsk	N. 52 16	E.104 16	6.57 p.m.	1535	468	28.86	733 1	30.71	780.0	— 4.9	—20.5	84	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	0.42	10.8
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.25	708.4	30.43	772.9	7.5	—13.6	76	5	2	1	3	2	2	1	12	.....	.....	.....	4	0.11	2.9
Kasan	N. 55 47	E. 49 08	3.17 p.m.	249	76	30.43	772.8	30.75	781.0	9.7	—12.4	87	7	2	7	5	3	1	.....	2	1	.....	.....	5	0.04	0.9
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	30.38	771.7	30.48	774.2	19.4	— 7.0	75	.....	1	6	10	2	1	.....	1	7	.....	.....	6	0.06	1.5
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.14	765.5	30.16	766 1	32.7	0.4	.....	1	.....	.....	.....	.....	18	8	1	.....	.....	.....	6	0	0
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.75	755.6	30.43	772.9	20.3	— 6.5	82	.....	1	1	.....	3	12	5	5	1	.....	.....	6	0.58	14.7
Koslov	N. 52 53	E. 40 31	2.42 p.m.	466?	142?	30.09	764.3	30.67	779.0	8.8	—12.9	87	2	2	1	.....	.....	5	6	4	8	.....	.....	4	0.01	0.3
Lgov	N. 51 41	E. 35 17	2.21 p.m.	535?	163?	29.95	760.8	30.62	777.7	16 5	— 8.0	74	.....	1	2	.....	.....	3	15	3	4	.....	.....	6	0.05	1.3
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	30.33	770 4	30.38	771.6	24.6	— 4.1	78	.....	.....	.....	2	1	2	9	12	2	.....	.....	7	0.60	15.3
Lugan	N. 48 35	E. 39 20	2.37 p.m.	187?	57?	30.32	770.2	30.55	776.0	23.4	— 4.8	59	.....	2	1	.....	.....	1	20	4	.....	.....	.....	5	0.13	3.2
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	30.13	765.3	30.70	779.8	12.7	—10.7	81	2	2	3	2	8	3	3	.....	5	.....	.....	5	0.08	2.1
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	62	19	30.22	767 6	30.29	769.4	29.1	— 1.6	69	1	.....	.....	.....	1	1	12	11	2	.....	.....	6	0.11	2.8
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	410?	125?	30.26	768.5	30.79	782.1	14.4	— 9.8	72	3	2	.....	4	4	2	2	7	4	.....	.....	4	0.24	6.0
Perm	N. 58 01	E. 56 16	3.45 p.m.	344?	105?	30.19	766.7	30.63	778 0	10.9	—11.7	76	1	.....	5	12	3	.....	1	1	5	.....	.....	5	0.36	9.2
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	30.12	764.9	30.49	774.4	15.8	— 9.0	66	2	1	1	4	1	3	.....	14	2	.....	.....	6	0.68	17.3
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	180?	55?	30.32	770.1	30.58	776.7	14.4	— 9.8	74	.....	3	3	7	2	6	.....	1	6	.....	.....	4	0.16	4.2
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.84	757.9	30.40	772.1	23.0	— 5.0	75	.....	1	1	1	1	5	14	5	1	.....	.....	7	0.02	0.6
Potl	N. 42 09	E. 41 37	2.46 p.m.	466?	142?	30.05	763.3	30.07	703.8	50.4	10.2	64	.....	.....	.....	4	.....	.....	15	.....	9	.....	.....	4	2.02	51.2
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	30.50	774.7	30.56	770.2	19.0	— 7.2	73	.....	3	3	1	5	9	3	4	.....	.....	.....	5	0.18	4.5
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	138?	42?	29.88	759.0	30.10	764.5	43.3	6.3	66	5	8	3	1	1	1	.....	9	.....	.....	.....	7	0.18	4.7
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512	156	29.88	759.0	30.50	774.7	21.7	— 5.7	66	.....	1	2	.....	.....	9	6	10	.....	.....	.....	6	0.21	5.3
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.66	728.0	30.45	773.4	25.9	— 3.4	64	5	6	1	3	6	2	.....	1	4	.....	.....	6	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	.....	.....	.....	.....	36.3	2.4	72	2	.....	.....	.....	1	5	11	7	2	.....	.....	9	0.72	18.4
Viatka	N. 58 36	E. 49 41	3.19 p.m.	518	177	29.99	761.7	30.72	780.3	7.5	—13.6	92	1	4	6	.....	3	.....	3	1	2	.....	.....	6	0.09	2.3
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.81	757.1	30.28	769.1	25.3	— 3.7	84	1	.....	.....	2	2	9	8	1	5	.....	.....	7	0.56	14.1
Yeniseisk	N. 58 27	E. 92 06	6 08 p.m.	262?	80?	30.30	769.6	30.66	778.7	— 2.9	—19.4	73	.....	4	.....	2	2	4	3	.....	13	.....	.....	7	1.36	34.6
SCOTTISH.																												
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	.....	.....	30.13	765.3	.....	.....	.....	4	.....	5	4	2	4	3	2	1	.....	.....	8	1.49	37.8
SPANISH.																												
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.04	762.9	30.10	764.4	52.5	11.4	70	1	8	2	.....	6	1	1	.....	9	1478	2379	7	4.65	118.2
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.07	687.6	30.12	765.1	42.6	5.9	69	7	1	6	3	3	1	1	.....	7	4374	7040	5	0.65	16.5
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.80	706.2	30.05	763.3	50.2	10.1	63	1	2	3	2	1	.....	.....	7	13	6574	10579	5	0.79	20.1
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.14	740.1	30.07	763.8	52.2	11.2	67	8	.....	1	5	3	3	.....	6	2	4602	7406	7	1.79	45.5
Sub-Series.																												
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	30.03	762.8	30.05	763.3	64.5	18.0	84	7	.....	.....	1	3	11	5	1	.....	.....	.....	4	1.10	27.8
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.96	760.9	29.95	760.6	76.1	24.5	73	.....	.....	.....	.....	.....	8	18	2	.....	4065	7529	1	0.64	16.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.01	762.1	30.09	764.3	56.1	13.4	73	3	4	6	.....	2	4	2	1	6	.....	.....	6	1.65	42.1
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.97	761.1	30.06	763.4	74.5	23.6	83	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5	1.85	47.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for February, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	30.28	769.0	30.37	771 3	16.0	— 8.9	91	2	.....	2	4	11	4	.....	.....	5	.....	.....	5	1.24	31.4
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	30.28	769.1	30.38	771.6	22.3	— 5.4	91	4	1	2	11	.....	1	1	3	5	.....	.....	6	1.04	26.4
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	30.28	769 0	30.37	771.4	24.3	— 4.3	85	3	.....	.....	1	4	2	1	.....	17	.....	.....	7	0.58	14.6
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	30.13	765.2	30.34	770.6	28.2	— 2.1	81	2	.....	1	3	6	.....	5	7	4	.....	.....	7	0.35	8.8
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	30.19	766.7	30.28	769.0	29.3	— 1.5	81	2	.....	2	6	1	7	8	2	.....	.....	.....	5	0.70	17.7
Sub-Series.																										
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	30.21	767.2	30.33	770.4	26.1	— 3.1	87	4	.....	.....	6	2	2	6	8	.....	.....	.....	8	0 43	11.0
SWISS.																										
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.63	727.2	30.12	765.0	34.5	1.4	82	12	3	1	1	6	.....	1	4	.....	.....	.....	9	1.95	49.5
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.07	763.7	42.8	6.0	77	11	6	.....	1	2	4	.....	4	.....	.....	.....	8	3.56	90.3
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.01	762.2	57.2	14.0	.....	.....	2	2	6	9	8	.....	1	.....	.....	.....	6	5.43	138.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.92	760.0	62.8	17.1	69	2	3	3	15	.....	.....	.....	5	.....	.....	.....	7	9.86	250.4
UNITED STATES.																										
New Eng'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.87	758.7	29.94	760.5	17.7	— 7.9	78	4	10	1	1	4	1	2	3	2	8736	14059	7	3.25	82.5
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.87	758.7	29.98	761.5	17.6	— 8.0	81	4	6	6	5	1	.....	.....	3	3	6972	11220	6	5.52	140.2
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.36	593.3	29.98	761.5	5.1	—14.9	89*a*	.....	21	4	1	1	.....	.....	1	.....	.....	.....	3	9.03	229.4
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.88	758.9	30.02	762.5	23.3	— 4.8	74	3	7	11	2	2	.....	.....	.....	.....	10621	17092	4	7.04	178.8
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.99	761.7	30.01	762.2	26.4	— 3.1	81	7	5	5	5	3	.....	.....	3	.....	13453	21650	5	8.89	225.8
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.01	762 2	30.05	763.3	24.5	— 4.2	84	6	5	5	2	2	.....	1	6	.....	6084	9791	6	11.98	304.2
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.94	760.5	30.05	763.3	22.7	— 5.2	82	6	3	4	8	1	1	.....	4	1	7175	11541	5	5.95	151.1
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.01	762.2	30.10	764.5	18.9	— 7.3	75	5	7	1	3	7	.....	1	4	.....	5853*a*	9419*a*	6	1.40	35.6
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.91	759.7	30.08	764.0	25.4	— 3.7	77	5	5	6	6	1	1	2	2	.....	11125	10904	4	5.90	149.9
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.98	761.5	30.10	764.5	26.6	— 3.0	80	3	9	3	4	2	.....	1	6	.....	9512	15308	4	4.62	117.3
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.07	763.8	30.09	764 3	25.4	— 3.7	80	2	9	3	8	1	1	.....	4	.....	14667	23594	4	6.53	165.9
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.10	764.5	30.10	764.5	26.8	— 2.9	82	2	12	4	5	.....	3	.....	2	.....	7527	12113	5	4.92	125.0
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.09	764.3	30.13	765.3	26.4	— 3.1	74	5	8	3	3	1	.....	3	4	1	4821	7758	4	5.49	139.4
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.03	762.7	30.13	765.3	26.3	— 3.2	83	2	9	1	4	2	1	1	5	3	5313	8550	5	4.32	109.7
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.11	764.8	30.10	764.5	31.1	— 0.5	76	.....	12	3	1	6	1	4	.....	1	10784	17355	4	5.11	129.8
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.12	765.0	30.12	765.0	33.1	0.6	79	3	4	6	3	6	.....	.....	3	3	10228	16460	3	3.39	86.1
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.42	747 3	30.12	765.0	28.4	— 2.0	82	.....	6	4	6	5	2	2	2	.....	3432	5523	4	3.81	96.8
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.12	765.0	30.13	765 3	32.3	0.2	77	6	1	5	1	6	1	.....	6	2	5043	8116	3	4.03	102.4
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.13	765.3	30.12	765.0	35.8	2.1	78	5	5	4	2	4	1	1	5	1	10486	16876	4	4.38	111.2
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.12	765.0	30.11	764.8	39.7	4.3	78	6	7	1	3	2	1	.....	7	1	8651	13922	4	2.29	58.2
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.14	765 5	30.12	765.0	39.3	4.1	83	9	8	.....	4	2	.....	3	2	.....	9790	15755	4	2.34	59.4
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.10	764.5	30.11	764.8	39.4	4.1	78	6	5	5	1	2	1	.....	8	.....	7278	11702	4	2.16	54.9
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	30.10	764.5	30.12	765.0	39.1	3.9	84	4	3	3	6	1	1	1	5	4	4655	7491	5	2.15	54.6
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.29	744.0	30.15	765.8	32.7	0.4	74	3	4	2	7	1	1	2	7	1	4080	6566	3	2.76	70.1
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.12	765.0	30.14	765.5	43.2	6.2	73	2	2	5	2	1	.....	1	7	8	4580	7371	4	2.13	54.1
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.00	762.0	30.10	765.1	36.5	2.5	82	3	1	6	1	3	1	3	6	4	2887	4646	4	1.70	43.2
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.09	764.3	30.15	765.8	44.3	6.8	78	6	7	3	3	3	1	2	3	.....	5479	8818	4	2.38	60.5
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.12	765.0	30.14	765.5	48.0	8.9	85	1	9	2	1	2	2	.....	7	4	3913	6297	4	1.87	47.5
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.10	764.5	30.08	764.0	49.7	9.8	87	7	4	2	1	3	2	1	8	.....	5495	8843	4	1.17	29.7
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.10	764.5	30.07	763 8	63.5	17.5	88	8	.....	.....	.....	1	3	1	13	2	7068	11375	5	0.13	3.3
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.13	765.3	30.12	765 0	52.3	11.3	87	13	3	6	.....	3	.....	1	.....	2	3997	6434	5	1.18	30.0
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.96	735.6	30.15	765.8	36.0	2.2	70	1	8	4	5	2	3	4	1	.....	7800	12553	5	1.53	38.9
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.13	765.3	30.12	765.0	45.6	7.6	75	7	.....	3	2	.....	3	4	9	.....	5021	8080	5	2.18	55.4
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.13	765.3	30.13	765.3	43.9	6.6	80	10	4	.....	2	3	1	2	5	1	6037	9716	5	2.15	54.6
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.93	760.2	30.14	765.5	40.5	4 7	76	3	4	1	5	2	4	3	3	3	4432	7132	5	4.10	104.1
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.95	760.7	30.14	765.5	40.9	4.9	78	3	1	2	.....	4	8	5	2	3	4014	6460	5	4.97	126.2
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.10	764.5	30.12	765.0	47.9	8.8	82	4	2	3	3	2	2	5	6	1	5777	9297	6	1.96	49.8
West Gulf states																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.91	759.7	30.13	765.3	40.8	4.9	77	4	1	2	2	7	4	4	3	1	3653*f*	5879*f*	4	4.77	121.2
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.64	752.8	30.14	765.5	30.3	— 0.9	79	4	1	3	1	1	1	12	3	2	4140	6663	4	2.38	60.5
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.82	757.4	30.11	764.8	33.7	0.9	84	5	4	4	4	3	1	5	.....	2	4057	6529	4	4.27	108.5
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.11	764.8	30.11	764.8	50.5	10.3	82	.....	4	2	2	7	2	8	3	.....	7981	12844	3	2.31	58.7
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	30.10	764.5	30.09	764 3	51.9	11.1	90	4	.....	1	6	4	.....	8	4	1	11156	17954	4	3.29	83.6
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.58	751 3	30.12	765.0	42.4	5.8	80	3	2	2	2	7	4	1	7	.....	6825	10984	4	3.95	100.3
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.30	744 2	30.10	764.5	46.4	8.0	72	11	1	4	1	2	2	1	6	.....	5791	9319	5	3.15	80.0
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	30.05	763.3	30.06	763.5	55.3	12.9	88	8	1	1	.....	8	1	1	6	2	6060	9752	5	2.33	59.2
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.91	759.7	30.07	763.8	52.3	11.3	76	16	1	.....	.....	.....	5	.....	.....	6	3278	5275	5	1.72	43.7
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.35	745 5	30.18	766.6	32.3	0.2	82	8	3	1	4	2	.....	3	6	1	4681	7533	4	3.28	83.3
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.11	739.7	30.16	766.1	29.9	— 1.2	85	6	3	2	3	.....	1	1	9	3	4059	6532	6	2.62	66.5
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.83	757.7	30.16	766.1	34.0	1.1	77	.....	8	4	3	1	4	2	4	2	4837	7784	4	6.43	163.3
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.56	750.8	30.14	765.5	28.1	— 2.2	83	.....	8	4	4	1	1	9	2	.....	4545	7314	5	3.82	97.0
Louisville	N. 38 15	W 85 45	6.17 a.m.	551	168	29.55	750.6	30.14	765.5	28.1	— 2.2	80	2	5	4	5	5	2	1	2	2	5943	9564	4	1.94	94.3
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.12	739.6	30.10	764.5	25.8	— 3.4	82	2	5	2	6	4	6	2	1	.....	6461	10398	6	2.33	59.2
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.26	743.2	30.10	764.5	24.5	— 4.2	86	3	5	2	6	7	3	2	.....	.....	5163	8309	6	1.51	38.4
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.45	748.0	30.14	765.5	25.5	— 3.6	81	1	5	1	5	5	5	1	2	3	5765	9278	5	1.65	41.9
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	247	29.23	742.4	30.13	765.3	23.0	— 5.0	73	3	4	2	7	5	3	.....	4	.....	5589	8994	4	1.26	32.0
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.27	743.4	30.04	763.0	25.4	— 3.7	85	1	4	3	6	6	1	1	4	2	5553	8936	7	1.39	35.3
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.36	745.7	30.06	763.5	20.9	— 6.2	87	1	5	4	6	6	2	1	1	2	9138	14706	8	2.18	55.4
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.30	744.2	30.08	764 0	20.4	— 6.4	84	2	2	7	5	6	3	.....	2	1	9204	14909	7	4.00	101.6
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.69	754 1	30.07	763.8	18.6	— 7.4	86	5	5	.....	4	6	4	1	2	1	9100	14645	8	2.19	55.6
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.32	744.7	30.08	764.0	21.2	— 6.0	81	2	4	2	5	10	.....	1	3	1	8892	14310	7	3.43	87.1
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.39	746.5	30.10	764.5	23.4	— 4.8	79	2	3	3	12	3	2	2	1	.....	10403	16742	7	1.12	28.4
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.31	744.5	30.09	764.3	22.3	— 5.4	83	3	5	2	3	9	5	.....	1	.....	8447	13594	7	1.55	39.4
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.36	745.7	30.09	764.3	22.4	— 5.3	84	3	3	4	7	7	.....	.....	2	2	6887	10922	6	1.32	33.5
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.33	745 0	30.08	764.0	25.2	— 3.8	80	5	2	6	7	3	1	2	2	.....	8214	13219	7	1.30	33.0
Upper lake region.																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.33	745.0	30.04	763.0	13.0	—10.6	81	2	5	7	1	6	1	4	2	.....	6755	10871	7	1.30	33.0
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.33	745.0	30.05	763 3	9.5	—12.5	86	7	6	3	5	3	1	.....	2	1	6533	10513	8	1.84	46.7
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744.5	30.01	762.2	21.6	— 5.8	86	1	2	5	4	5	2	6	2	1	8076	12997	8	3.50	88.9
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.32	744.7	30.02	762.5	13.9	—10.1	69	3	4	3	4	2	4	7	1	.....	7087	11405	6	1.19	30.2
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.27	743.4	30.06	763.5	11.8	—11.2	87	1	3	12	2	4	4	.....	2	.....	7389	11891	7	1.18	30.0
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.35	745.5	30.08	764.0	18.3	— 7.6	83	.....	6	4	6	3	10	2	2	3	8252	13280	7	2.11	53.6
Chicago *a*	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.32	744.7	30.06	763.5	24.7	— 4.1	81	.....	5	4	8	6	3	2	.....	.....	6706*a*	10792*a*	7	1.51	38.4
Milwaukee	N. 43 02	W. 87 54	5.08 a.m.	697	212	29.26	743.2	30.05	763.3	18.5	— 7.5	88	2	5	8	5	2	3	2	1	.....	9045	14556	6	2.36	59.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.30	744.2	30.10	764.5	7.3	—13.7	84	1	10	1	4	1	1	.....	6	4	6084	9791	6	1.81	46.0
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.11	739.4	30.07	763.8	10.4	—12.0	86	1	1	10	1	3	4	1	1	6	4791	7710	6	0.25	6.3
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.27	743.4	30.08	764.0	16.5	— 8.6	76	4	7	4	1	9	2	.....	1	.....	6280	10106	6	0.81	20.6
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.41	747.0	30.10	764.5	18.2	— 7.7	80	3	9	3	7	2	2	2	.....	.....	6910	11120	6	1.52	38.6
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.15	740.4	30.10	764.5	19.1	— 7.2	82	9	2	4	3	3	1	1	1	4	3950	6357	5	0.52	13.2
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.33	745.0	30.07	763.8	16.8	— 8.4	79	2	8	2	2	9	.....	2	.....	3	3870	6228	5	1.36	34.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for February, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. STATES—Con.																										
U. Miss. val.—Con.	° ′	° ′																								
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.40	746.7	30.09	764.3	21.2	—6.0	83	5	8	2	4	5	3	.....	.....	1	6315	10163	5	1.40	35.6
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.77	756.1	30.15	765.8	30.3	—0.9	77	3	8	1	3	3	5	4	1	2	5922	9530	5	2.54	64.5
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.42	747.3	30.11	764.8	26.8	—2.9	74	3	8	2	3	8	1	1	.....	2	8044	12945	4	1.86	47.2
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.51	749.5	30.13	765.3	30.5	—0.8	75	5	7	2	2	8	2	1	1	...	8897	14318	4	1.71	43.4
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.22	742.2	30.16	766.1	23.5	—4.7	78	4	8	1	1	9	3	1	.....	1	5465	8795	4	0.61	15.5
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.91	734.3	30.14	765.5	18.7	—7.4	85	3	8	2	1	4	2	.....	2	6	5881	9464	2	0.36	9.1
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28 34	719.8	.....	.....	17.8	—7.9	83	1	9	.....	.....	.....	9	1	1	7	7021	11299	6	0.10	2.5
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.64	727.4	30.16	766.1	12.8	—10.7	85	7	6	.....	.....	1	9	1	1	3	6767	10890	5	0.16	4.1
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28 73	729.7	30.15	765.8	16.4	—8.7	84	5	6	5	2	1	4	2	1	2	6989	11248	3	0.57	14.5
Lamar a	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.02	737.1	30.15	765.8	28.0	—2.2	79	2	5	2	2	6	5	2	3	.....	7655	12319	3	1.22	31.0
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.30	693.4	30.14	765.5	19.6	—6.9	75	3	5	9	4	1	3	1	1	1	9113	14665	6	0.35	8.9
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.04	737.6	30.14	765.5	2.1	—16.6	92	10	6	.....	.....	.....	8	2	1	1	.....	9934	15987	5	0.78	19.8
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.21	741.9	30.19	766.8	—0.8	—18.2	91	4	9	1	1	7	1	.....	2	3	7997	12870	4	0.46	11.7
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.20	716.3	30.18	766.6	10.8	—11.8	89	7	9	.....	.....	1	2	3	2	4	5072	8162	4	0.54	13.7
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.96	710 2	30.18	766.6	11.6	—11.3	87	1	6	1	3	3	1	3	10	.....	6811	10961	6	0.71	18.0
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.42	721.9	30.16	766.1	1.8	—16.8	84	5	7	1	3	4	1	2	1	4	10760a	17316a	6	0.79	20.1
Northern slope.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.11	688 6	30.17	766.3	26.8	—2.9	66	.....	.....	2	15	.....	8	2	1	.....	9417	15155	6	0.77	19.6
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.16	689.9	30.16	766.1	26.8	—2.9	73	.....	.....	.....	10	.....	.....	.....	4	14	3019	4858	6	0.05	16.5
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.82	681.2	30.18	766.6	24.6	—4.1	86	8	1	2	4	.....	8	1	4	.....	3803k	6120k	6	0.74	18.8
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.47	646.9	30.22	767.6	24.6	—4.1	67	7	8	9	.....	.....	.....	1	1	2	9483	15261	7	1.92	48.8
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.30	668.0	30.16	766.1	28.5	—1.9	59	.....	3	11	9	.....	.....	4	1	....	7276	11709	4	1.04	26.4
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.82	655.8	30.16	766.1	31.3	—0.4	66	4	1	7	13	2	.....	1	.....	.....	6980	11233	5	0.56	14.2
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.86	707.6	30.22	767.6	9.5	—12.5	84	3	6	2	1	.....	.....	3	7	6	5068	8156	7	0.38	9.7
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.30	642.6	30.22	767.6	27.4	—2.6	77	2	.....	.....	15	2	1	.....	7	1	2288	3682	3	1.78	45.2
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.94	608.1	30.20	767.1	28.5	—1.9	82	4	13	6	2	1	.....	.....	1	1	9161	14743	2	0.84	21.3
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.07	687.6	30.15	765.8	26.1	—3.3	44	.....	5	11	3	3	1	3	.....	2	5429	8737	3	0.17	4.3
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.62	447.5	30.33	770.4	4.4	—15.3	83	9	6	8	.....	1	.....	1	3	.....	7843	12622	3	0.84	21.3
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.59	726.2	30.12	765.0	24.8	—4.0	88	8	4	2	2	4	3	2	3	.....	6761	10881	4	0.88	22.4
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.72	627.9	30.23	767.8	30.6	—0.8	65	3	2	2	2	14	2	.....	3	.....	6753	10868	3	0.72	18.3
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	26.08	662.4	30.18	766.6	27.1	—2.7	85	.....	3	18	1	.....	1	4	1	.....	5527	8895	3	0.13	3.3
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.44	697.0	30.12	765.0	29.7	—1.3	86	2	10	5	1	5	2	1	.....	2	7350	11828	4	0.46	11.7
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.27	692.6	30.15	765.8	31.9	—0.1	80	2	16	.....	2	7	.....	.....	1	.....	8462	13618	4	1.44	36.6
Southern slope.																										
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.87	733.3	30.15	765.8	30.0	—1.1	72	13	5	.....	3	3	3	.....	1	.....	7415	11933	3	0.49	12.4
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.29	718.6	30.17	766.3	38.5	3.6	78	5	3	1	3	7	7	2	.....	.....	6494	10451	4	0.61	15.5
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3004	916	27.04	686.8	30.13	765.3	40.8	4.9	58	.....	1	2	6	8	6	3	1	1	6183	9900	3	0.22	5.6
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.22	640.6	30.14	765.5	36.2	2.3	57	3	1	2	12	1	.....	.....	5	4	4791	7710	3	0.39	9.9
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	23.97	608.8	.....	.....	27.0	—2.8	73	3	10	8	3	.....	2	1	1	.....	6027	9699	3	0.17	4.3
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622?	1104?	26.39	670.3	.....	.....	44.0	6.7	60	8	1	.....	.....	.....	2	8	5	4	3504	5639	0	0.14	3.6
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.26	590.8	30.26	768.6	27.1	—2.7	76	6	1	1	2	1	6	3	7	1	5296	8523	2	0.85	21.6
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.30	693.4	30.10	764.5	32.2	0.1	87	3	.....	3	.....	9	.....	13	.....	.....	2715	4369	2	1.40	35.6
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.08	637.0	30.14	765.5	30.9	—0.6	72	2	.....	.....	3	...	1	3	19	.....	4135	6654	2	2.73	69.3
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.26	641.6	30.09	764.3	41.2	5.1	52	12	2	1	.....	.....	8	1	3	1	5371	8557	2	1.29	32.8
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.76	628.9	30.15	765.8	31.1	—0.5	81	1	2	4	3	.....	1	.....	5	12	3950	6357	1	1.15	29.2
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.87	758.7	29.99	761.7	53.1	11.7	63	6	1	1	1	3	.....	2	8	6	3779	6082	2	0.08	2.0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.32	668.5	30.16	766.1	38.8	3.8	61	3	14	3	.....	.....	1	4	.....	3	2985	4804	3	0.44	11.2
Middle plateau.																										
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.52	597.4	.....	.....	24.6	—4.1	76	.....	1	7	17	.....	.....	1	2	...	7182	11558	4	0.43	10.9
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.71	653.0	30.26	768.6	34.6	1.4	73	3	3	2	.....	1	6	5	4	4	2822	4542	4	1.36	34.5
Frisco	N. 38 25	W. 113 16	4.27 a.m.	6400	1950	23.76	603.5	.....	.....	33.2	0.7	66	9	5	1	7	.....	.....	1	4	1	4944	7956	4	0.19	4.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.71	653 0	30.24	768.1	32.4	0.2	69	1	.....	.....	10	2	1	2	12	.....	5248	8436	3	0.40	10.2
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.38	619 2	30.38	771.6	23.7	—4.6	77	.....	2	.....	1	5	17	2	.....	1	3823	6152	4	0.13	3.3
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.47	646.9	.....	.....	33.4	0.8	69	.....	1	20	1	1	.....	1	.....	4	3097	4984	4	2.10	54.9
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.28	692.9	30.24	768.1	33.9	1.1	86	1	7	1	.....	.....	6	1	.....	12	2550	4104	4	0.94	23.9
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.96	710.2	30.10	764.5	32.1	0.1	88	.....	.....	.....	3	6	4	1	.....	4	10	3136	5047	3	0.61	15.5
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	29.03	737.3	.....	.....	38.0	3.3	81	.....	.....	.....	18	7	3	.....	.....	.....	4301	7018	5	1.29	32.8
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.89	759.2	30.09	764.3	44.6	7.0	91	1	.....	3	11	5	7	1	.....	.....	7700	12392	6	4.77	121.2
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.09	764.3	30.14	765.5	40.5	4.7	92	4	.....	.....	5	11	4	1	1	2	2817	4534	6	3.39	86.1
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.08	764.0	30.10	764.5	37.4	3.0	95	...	.....	.....	1	.....	24	.....	1	1	2236	3598	7	2.98	75.7
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.98	761.5	30.09	764.3	43.8	6.6	87	.....	2	3	6	3	5	6	2	1	10183	16388	9	10.29	261.4
Portland	N. 45 32	W. 122 43	3.49 a.m.	80	24	30.06	763.5	30.15	765.8	41.2	5.1	96	5	3	3	1	8	3	1	.....	4	3119	5020	6	1.96	49.8
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.59	751.6	30.16	766.1	41.9	5.5	94	1	5	.....	1	1	.....	1	.....	19	1030	1658	6	2.44	62.0
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.41	747 0	30.09	764.3	48.0	8.9	88	.....	9	10	.....	2	6	...	1	.....	12926	20802	4	1.37	34.8
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.76	755.9	30.11	764.8	47.9	8.8	86	7	11	1	1	1	.....	3	2	2	3409	5486	2	0.18	4.6
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.03	702.7	30.08	764.0	49.3	9.6	91	1	8	1	1	5	7	2	.....	3	4065	6542	2	0.29	7.4
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.04	763.0	30.09	764.3	52.1	11.2	86	9	5	5	1	2	1	1	4	.....	4344	6991	4	0.24	6.1
S. Pac. coast reg'n.																										
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.76	755.9	30.03	762.7	48.0	8.9	82	8	1	2	.....	.....	4	4	6	3	5072	8162	2	0.81	20.6
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.66	753.4	30.00	762.0	52.0	11.1	81	3	.....	1	.....	.....	3	5	16	.....	4011	6455	2	1.41	35.8
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.94	760.5	29.98	761.5	52.0	11.1	76	8	4	.....	.....	1	.....	7	8	.....	3090	4973	3	1.51	38.4
Alaska stations.																										
Fort Alexander	N. 58 57	W. 158 18	1.27 a.m.	18	5	29.64	752.8	29.75	755.6	9.4	—12.6	86	1	1	1	.....	1	.....	17	7	.....	.....	.....	5	1.63	41.4
Ft St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.85	758.2	29.93	760.2	—3.3	—19.6	88	9	.....	1	3	3	.....	3	6	3	10886	17519	4	0.34	8.6
Sitka	N. 57 03	W. 135 19	2.59 a.m.	63	19	29.58	751.3	29.68	753.9	36.0	2.2	84	.....	.....	.....	1	.....	12	2	.....	13	3822	6151	8	18.84	478.5
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.56	750.8	29.60	751.8	27.5	—2.5	77	11	6	.....	2	5	4	.....	.....	.....	10084	16228	9	7.64	194.1
Sub-Series.																										
Behring's Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.80	756.9	29.88	758.9	26.8	—2.9	92	4	2	.....	1	1	2	9	9	.....	9600	15449	9	1.50	38.1
Bluefields *d*	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.97	761.2	29.92	760.0	71.5	21.9	90	7	14	2	.....	.....	.....	1	10	8	.....	.....	6	3.94	100.1
Cay Sal l ight H	N. 23 56	W. 80 28	6.38 a.m.	?	?	.....	.....	.....	.....	68.4*a*	20.2*a*	84*a*	64	4	.....	.....	.....	1	10	8	.....	.....	.....	*a*5	0.09*a*	*a*2.3
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	78.0	25.6	85	.....	.....	.....	.....	.....	.....	23	5	.....	.....	.....	5	3 00	76.2
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	75.2	24.0	78	.....	.....	.....	.....	.....	.....	5	23	.....	.....	.....	3	0.15	3.8
Pointe à Pitre	N. 16 44	W. 61 31	7.54 a.m.	0	0	30.00	762.0	29.93	760.2	74.5	23.6	83	2	.....	.....	.....	.....	2	16	8	.....	.....	.....	.....	2.78	70.7
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	62.6	17.0	.....	.....	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	.....	0.06	1.5

OCEAN SQUARE DATA FOR FEBRUARY, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.88	758.9	76.0	24.4	4						6	18			4.2
12.5 27.5	29.91	759.4	76.9	24.9	5						1	22			4.8
12.5 32.5	29.95	760.7	77.1	25.1							7	20		1	4.6
12.5 37.5	29.97	761.2	77.6	25.3							12	15		1	4.4
12.5 42.5	29.96	761.0	78.1	25.6							22	6			4.9
12.5 47.5	30.00	762.0	79.1	26.2							25	3			4.6
12.5 52.5	29.95	760.7	79.5	26.4						1	26	1			4.7
17.5 22.5	29.93	760.2	73.7	23.2	6							3	19		4.5
17.5 27.5	29.97	761.2	74.1	23.4	4						2	22			4.6
17.5 32.5	30.00	762.0	74.5	23.6	1					1	10	14		2	4.4
17.5 37.5	30.01	762.2	74.9	23.8	2					1	11	11	1	2	4.1
17.5 42.5	30.03	762.7	75.6	24.2	1					2	14	10		1	4.6
17.5 47.5	30.02	762.5	76.3	24.6						2	20	5		1	4.5
17.5 52.5	29.97	761.2	77.2	25.1						3	22	3			5.2
17.5 57.5	29.98	761.5	78.2	25.7						4	19	5			4.5
22.5 22.5	30.01	762.2	70.1	21.2	7	1					10	9		1	4.1
22.5 27.5	30.05	763.3	70.7	21.5	4					2	12	8		2	4.4
22.5 32.5	30.08	764.0	71.7	22.1	1		1	1	1	4	11	6	1	2	3.9
22.5 37.5	30.10	764.5	72.4	22.4	3				3	4	5	9	2	2	3.8
22.5 42.5	30.10	764.5	73.0	22.8	1				4		10	12		1	4.7
22.5 47.5	30.09	764.3	73.6	23.1	1	1	1	1	1	4	12	6		1	4.8
22.5 52.5	30.06	763.5	74.2	23.4	3	2		2	2	2	15	2			5.0
22.5 57.5	30.06	763.5	74.5	23.6	1	1	1	2	1	7	13	2			5.0
22.5 62.5	30.05	763.3	74.3	23.5	1		2		1	10	9	5			4.8
22.5 67.5	30.04	763.0	73.8	23.2	1			1	2	10	9	5			4.4
22.5 72.5	30.03	762.7	73.1	22.8			3		3	4	7	7	2	2	3.7
27.5 22.5	30.09	764.3	66.0	18.9	6	1			1	1	8	10		1	4.4
27.5 27.5	30.12	765.0	67.0	19.4	6			1	1	4	9	6		1	4.7
27.5 32.5	30.13	765.3	68.1	20.1	2	2		2	2	4	9	5		2	4.7
27.5 37.5	30.17	766 3	69.2	20.7	1	1		3	1		13	6		3	4.6
27.5 42.5	30.14	765.5	69.9	21.1	3			4	1	3	7	8		2	4.7
27.5 47.5	30.13	765.3	70.5	21.4	1	1	3	2	2	3	14	1		1	4.7
27.5 52.5	30.11	764.8	70.8	21.6	2	3	1	3	2	3	11	2		1	5.1
27.5 57.5	30.11	764.8	70.5	21.4	1	4	2	1	4	4	8	3		1	5.3
27.5 62.5	30.10	764.5	69.9	21.1	3	4		2	3	8	6	1		1	5.5
27.5 67.5	30.08	764.0	69.2	20.7	2	2	1	3	4	9	2	4		1	5.2
27.5 72.5	30.07	763.8	68.5	20.3	5		2	1	5	4	5	6			4.3
27.5 77.5	30.09	764.3	62.4	16.9	2	3	3	1	2	3	5	9			4.3
32.5 12.5	30.07	763.8	60.1	15.6	2	1	4	2	3		6	10			4.1
32.5 17.5	30.10	764.5	60.6	15.9	6	1	4	2	4		6	4	1		3.4
32.5 22.5	30.14	765.5	62.3	16.8	7	3	1	2	2	2	5	6			4.4
32.5 27.5	30.14	765.5	63.5	17.5	4	2	1	4		3	7	7			5.1
32.5 32.5	30.18	766.6	64.6	18.1	5		3	5		3	8	4			4.7
32.5 37.5	30.18	766.6	65.8	18.8	2		4	5	1	3	8	5			4.8
32.5 42.5	30.17	766.3	66.4	19.1	1	2	1	5	3	4	6	6			4.5
32.5 47.5	30.15	765.8	66.4	19.1	2	2	3	4	7	1	5	4			4.7
32.5 52.5	30.12	765.0	66.2	19.0	3	3	3	5	5	2	5	2			5.1
32.5 57.5	30.09	764.3	65.0	18.3	2	5	6	3	3	4	3	1		1	5.4
32.5 62.5	30.11	764.8	63.6	17.6	3	6	4	5	5	5					5.2
32.5 67.5	30.08	764.0	61.8	16.6	3	7	3	6	3	4	2				5.5
32.5 72.5	30.09	764.3	58.1	14.5	8	2	5	4	3	3	2	1			5.2
32.5 77.5	30.11	764.8	47.4	8.6	7	2	5	3	2	1	2	6			5.0
37.5 12.5	30.09	764.3	55.9	13.3	6	2	1	4	3		3	9			5.1
37.5 17.5	30.16	766.1	57.3	14.1	5	5	1	3	3			11			4.9
37.5 22.5	30.16	766.1	58.4	14.7	7	3	2	4	1		4	7			4 2
37.5 27.5	30.19	766.8	59.4	15.2	7	2		6	1	3	6	2	1		3.8
37.5 32.5	30.20	767.1	60.5	15.8	6		3	5	5	4	2	3			4.7
37.5 37.5	30.16	766.1	61.8	16.6	6	1	1	7	5	3	1	4			4.8
37.5 42.5	30.12	765.0	61.0	16 1	4	3	3	10	3	1	1	3			5.1
37.5 47.5	30.08	764.0	60.0	15.6	3	2	3	7	7	2	2	2			5.4
37.5 52.5	30.02	762.5	58.3	14.6	3	2	5	8	6		2	2			5.6
37.5 57.5	29.99	761.7	55.9	13.3	2	7	5	9	1	1	1	2			5.6
37.5 62.5	30.00	762.0	53.2	11.8	4	8	1	8	3	1	1	1	1		5.6
37.5 67.5	30.01	762.2	45.8	7.7	3	10	4	3	3	3	1	1			5.5
37.5 72.5	30.05	763.3	41.9	5.5	7	8	1	3	2	2	1	2		2	5.3
42.5 12.5	30.10	764.5	54.0	12.2	4	3	6	3	1	1	3	7			4.0
42.5 17.5	30.13	765.3	54.5	12.5	5	3	4	4	3	1	2	6			4.7
42.5 22.5	30.15	765 8	55.8	13.2	4	4	4	4	4	1	3	4			4.5
42.5 27.5	30.14	765.5	56.2	13.4	5	4	1	10	4	1		1		2	4.4
42.5 32.5	30.10	764.5	56.7	13.7	4	5	1	12	4	1				1	5.1
42.5 37.5	30.04	763.0	56.2	13.4	3	7	3	10	3	1				1	5.7
42.5 42.5	29.99	761.7	53.8	12.1	5	6	4	8	4				1		5.0
42.5 47.5	29.96	761.0	47.4	8.6	5	4	3	10	2	1		2		1	5.3
42.5 52.5	29.92	760.0	43.8	6.6	5	2	5	4	5	3	1	1		2	5.2
42.5 57.5	29.90	759.4	42.6	5.9	5	4	6	4	2	3	1	2	1		5.5
42.5 62.5	29.93	760.2	36.7	2.6	6	5	5	4	2	3	2	1			5.3
42.5 67.5	29.97	761.2	30.3	— 0.9	4	7	2	6	3	2	2	1	1		5.0
47.5 12.5	30.11	764.8	51.5	10.8	2	4	4	3	5	2	4	4			4.5
47.5 17.5	30.11	764.8	52.6	11.4	1	6	1	9	3	3		5			4.8
47.5 22.5	30.08	764.0	52.5	11.4	3	4	3	8	7			3			5.0
47.5 27.5	30.04	763.0	52.7	11.5	1	5	5	5	5	5	1	1			5.1
47.5 32.5	29.97	761.2	52.2	11.2		5	5	8	5	3	1	1			5.8
47.5 37.5	29.96	761.0	49.6	9.8	1	6	5	9	1	3	1	2			6.2
47.5 42.5	29.91	759.7	44.1	6.7	4	6	4	6	3	2	2		1		5.7
47.5 47.5	29.91	759.7	35.4	1.9	4	4	3	8	3	1	2	2		1	5.5
52.5 12.5	30.06	763.5	46.3	7.9		5	7	4	4	3	3	2			4.4
52.5 17.5	30.02	762.5	48.2	9.0	1	4	5	8	2	4	2	2			5.0
52.5 22.5	30.00	762.0	47.4	8.6		4	3	7	7	1	3	2		1	5.5
52.5 27.5	29.95	760.7	46.9	8.3	1	5	4	9	4	2	1	1		1	5.5
52.5 32.5	29.92	760.0	46.4	8.0	2	4	5	7	4	1	4			1	6.0
52.5 37.5	29.90	759.4	44.2	6.8	2	4	7	4	2	3	2			4	6.3
52.5 42.5	29.91	759.7	38.8	3.8	2	9		5	2	2				8	6.1
52.5 47.5	29.87	758.7	33.0	0.6	1	6	1	4	3	2				11	5.0
57.5 12.5	29.94	760.5	42.6	5.9	2	3	3	10	4	5		1			5.6
57.5 17.5	29.90	759.4	42.6	5.9	1	6	5	4	5	4		3			5.6
57.5 22.5	29.87	758.7	40.9	4.9	2	4	1	11	3	1	2	4			5.7
57.5 27.5	29.86	758.4	40.2	4.6	2	3	5	7	2	4	2	2		1	5.7
57.5 32.5	29.84	757.9	39.6	4.2	2	4	4	5	1	3	3			6	6.1
57.5 37.5															
57.5 42.5															
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR FEBRUARY, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of February, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The lowest mean barometer shown on the chart is 29.60 (751.8) at Unalashka, Aleutian Islands. Areas of low mean pressure, bounded by isobars of 29.80 (756.9), are located as follows: one over Iceland and the ocean to the westward, with recorded mean barometric minimum, 29.71 (754.6), at Stykkisholm; a second occupies a limited territory over the southwest portion of British India, with means ranging to 29.75 (755.6) at Belgaum, and the third embraces the northern half of Yesso, Japanese Islands, and the southern portion of the Sea of Okhotsk, with lowest mean recorded pressure, 29.76 (755.9), at Soya, Yesso. Areas of relatively low mean pressure, including means ranging below 29.90 (759.4), appear, one over, and in the vicinity of, the Barbadoes, with mean pressure 29.87 (758.7) at Bridgetown, and the other off the west coast of Africa, with barometric mean 29.82 (757.4) at Freetown, Sierra Leone.

The area within which the highest mean pressure appears is located over central European Russia, with means ranging to 30.79 (782.1) at Nikolsk. Extending eastward from this location is a ridge of high mean barometer which continues to the vicinity of Irkutsk, Asia, where mean pressure 30.70 (779.8) is shown. At intermediate points in eastern Europe and western Asia the means range to about 30.60 (777.2). A second area of high mean pressure occupies the west-central portion of the United States, and includes barometric maxima ranging to 30.38 (771.6) at Montrose, Colorado. Over the north Atlantic Ocean an area of high mean pressure, showing means ranging to 30.20 (767.1) in about N. 37°, W. 33°, extends from the region northeast of the West Indies to the west-central coast of Europe. It will be seen from the above, and by referring to the monthly mean map, that the mean pressure is abnormally high over central Europe and Asia and intermediate points, and that this area extends, with diminishing pressure, westward over Europe and southwestward over the north Atlantic Ocean, gradually assuming a normal value over the ocean.

Over the North American continent the mean pressure is greatest over the middle slope and middle plateau, and least over the Canadian Maritime Provinces, the recorded extremes being 30.37 (771.4) and 29.82 (757.4), respectively. Over the north Atlantic Ocean a barometric gradient of 0.49 of an inch is shown between Iceland and about N. 37°, W. 33°. Over Europe the mean pressure ranges from 30.79 (782.1) over central Russia to 29.92 (760.0) over Sicily. Over Asia the gradient is 0.94 of an inch between Irkutsk and northern Yesso, and 0.95 of an inch between Irkutsk and Belgaum, British India. Over Behring Sea and the north Pacific Ocean the mean pressure ranges from 29.88 (758.9) at Behring's Island to 29.60 (751.8) at Unalashka and 29.68 (753.9) at Sitka, Alaska.

Over the United States the mean pressure, as compared with the preceding month (January, 1886), is lower over the southern portion of Arizona and California; also in northern Texas, Indian Territory, Kansas, Nebraska, and over the northern districts from western Montana eastward to the New England coast. To the southward of the Lake region and upper Mississippi valley, and over an area extending from the west Gulf states to the north Pacific coast, the barometric means are higher than for January, the increase being greatest on the north Pacific coast, where it ranges from .10 to .15. In Canada there has been a decrease in mean pressure of .10 to .20 of an inch over the Maritime Provinces; over the central districts the changes have been slight; over Manitoba the decrease averages about 0.30 of an inch, while to the westward of the one hundred and tenth meridian the steep east and west gradient which appeared on the January chart has disappeared, owing to the more southerly location for February of the high pressure area. Over the north Atlantic Ocean the centre of the area of low mean pressure north of the sixtieth parallel has moved westward about twenty degrees, with an average increase of about 0.25 of an inch in the barometric mean. The area of high mean pressure which appeared over the Azores in January has extended northeast and southwest, with barometric maximum about 0.10 of an inch lower. Over Europe an area of high mean pressure has moved west of north from the vicinity of the Caspian Sea over central Russia, with barometric maximum about 0.40 of an inch higher than in January. As a result of the north and west movement of this area of high, the mean pressure over the British Isles has increased about 0.40 of an inch; over Scandinavia and northern Russia the increase averages 0.40 to 0.50 of an inch, while over southwestern Europe the increase gradually diminishes to Spain and Portugal, where the average pressure is but slightly above the January mean. Over Asia the relative position of high and low areas have changed but slightly; the barometric maximum is, however, about 0.20 of an inch higher than in January, and the mean pressure averages slightly lower over British India. Over the Japanese Islands the mean pressure remains about the same. Over Behring's Island the mean pressure has increased 0.27 of an inch, while on the west coast of Alaska the increase ranges from 0.25 to 0.35 of an inch.

Compared with the corresponding month of previous years, the mean pressure over the United States was below the normal along the Atlantic coast and over the northern districts from the lower lake region westward to Washington Territory; it was also below the normal in the lower Missouri valley, California, and southern Oregon; the departures in the districts named being generally less than .05, except in New England, where they ranged from .05 to .09. In the Ohio Valley, west Gulf states, Rio Grande Valley, north Pacific coast region, and in the northern and central Rocky Mountain districts, the mean pressure was above the normal, the departures nowhere exceeding .06. In Canada the average pressure was below the normal by amounts ranging from .01 to .05 of an inch. Over the British Isles the mean pressure was in excess of the normal for twenty years by amounts varying from 0.17 of an inch over the south-midland counties and Ireland, to about 0.25 of an inch in the northwest of Scotland, and to 0.23 of an inch at Sumburg Head. Over the continent of Europe the mean pressure was above the normal, except over the southwest portion, by amounts ranging from 0.05 of an inch over France to 0.48 of an inch over Sweden. In Spain the mean pressure averaged 0.02 and in Italy 0.05 of an inch below the normal for the month. Over British India the mean pressure was normal. At Zi-Ka-Wei, China, it was 0.07 of an inch above, while at Tokei, Japan, it was 0.11 of an inch below the normal.

In the United States the temperature was below the normal from 1° to 7° in the districts east of the one-hundredth meridian; to the westward of that meridian the month was warmer than the average, the departures above the normal temperature being most marked in the northern slope, where they ranged from 10° to 16°. The minimum temperatures recorded from the 3d to 5th, during the passage of an area of high barometer, were generally the lowest observed in February since the establishment of Signal Service stations; this was especially the case in the Ohio Valley, Tennessee, and the Atlantic and Gulf states. In Canada the average temperature was below the normal in Ontario and Quebec by amounts varying from 1° to 4°. In the Maritime Provinces it was above the normal, by amounts increasing eastward, to 4° at Sidney, Cape Breton. At Victoria, British Columbia, it was 5°.7 above the average, and at Winnipeg, Manitoba, it was 1°.3 below. Over

the British Isles it was the coldest February reported in many years; the mean temperature was below the average of twenty years by 3° over central Ireland, by about 5° over Scotland, and by 8° or 9° over the eastern counties of England. The highest readings recorded during the month were registered in most places between the 12th and 15th (chiefly on the 13th), during a period of southerly winds which accompanied the passage of a barometric depression to the northward of the islands. The lowest readings in the extreme north and northwest counties were recorded either between the 3d and 5th, or between the 25th and 27th. Over England the minimum temperature was experienced about the 10th. Over the continent of Europe the cold weather was continuous and severe, and the mean temperature was everywhere below the normal, the greatest average departure, 7°.9, occurring in Germany, and the least, 1°.2, in Norway. Over British India the mean temperature averaged 1°.6 above the normal, while at Zi-Ka-Wei, China, and at Tokei, Japan, the mean temperature was 3° to 4° below the normal.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of February, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Feb. mean of 9 (1877-'85) years.	Feb., 1886.	Departure.	Feb. mean of 9 (1877-'85) years.	Feb., 1886.	Departure.
				°	°	°
Astrakhan, Russia	30.19	30.54	+ 0.35	27.1	19.9	— 7.2
Archangel, Russia	29.85	30.50	+ 0.65	13.2	14.4	+ 1.2
Athens, Greece	30.04	29.97	— 0.07	53.5	54.1	+ 0.6
Beirut, Turkey in Asia	30.01	29.92	— 0.09	60.4	62.8	+ 2.4
Barnaul, Siberia, Asia	30.35	30.72	+ 0.37	4.9	— 6.7	—11.6
Bridgetown, Barbadoes	29.95	29.90	— 0.05	80.3	86.1	+ 1.3
Ekaterinburg, Russia	30.07	30.60	+ 0.53	12.0	13.5	+ 1.5
Fort Napier, Natal, South Africa*	29.78	29.83	+ 0.05	79.1	82.5	+ 3.4
Freetown, Sierra Leone	29.75	29.82	+ 0.07	82.3	81.0	— 1.3
Funchal, Madeira Islands*	30.19	30.09	— 0.10	64.0	60.6	— 3.4
Gibraltar †	30.15	30.02	— 0.13	60.5	56.7	— 3.8
Havana, Cuba, W. I.	30.03	30.05	+ 0.02	70.7	64.5	— 6.2
Malta, Mediterranean Sea	30.05	29.89	— 0.16	58.9	56.9	— 2.0
Melbourne, New South Wales	29.96	29.92	— 0.04	63.8	60.9	— 2.9
Mauritius, Indian Ocean	29.87	29.84	— 0.03	81.2	83.1	+ 1.9
Mexico, Mexico*	30.18	30.16	— 0.02	46.6	45.3	— 1.3
Nassau, Bahamas, W. I.	30.10	30.06	— 0.04	71.5	73.9	+ 2.4
Paramaribo, D. Guiana, S. A.	29.94	29.93	— 0.01	78.3	78.0	— 0.3
Ponta Delgada, Azores	30.15	30.19	+ 0.04	59.9	58.6	— 1.3
Swanbister, Orkneys	29.70	30.08	+ 0.38	40.4	39.1	— 1.3
San Juan de Puerto Rico, W. I.	30.03	30.06	+ 0.03	74.4	74.5	+ 0.1
Stykkisholm, Iceland	29.50	29.71	+ 0.21	27.6	25.9	— 1.7
Tashkend, Toorkistan, Asia	30.30	30.45	+ 0.15	35.8	25.9	— 9.9
Thorshavn, Färöe Islands	29.63	29.93	+ 0.30	39.5	39.4	— 0.1
Tiflis, Russia	30.13	30.35	+ 0.22	42.5	36.3	— 6.2
Tokio, Japan*	30.08	29.97	— 0.11	38.8	35.4	— 3.4
Yeniseisk, Siberia, Asia	30.36	30.66	+ 0.30	1.2	— 2.9	— 4.1
Zi-Ka-Wei, China	30.28	30.35	+ 0.07	37.9	33.6	— 4.3

* Means for eight years only. † Barometric means for seven years only.

The following table shows the mean pressure and mean temperature for February, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Feb. mean of 9 (1877-'85) years.	Feb., 1886.	Departure.	Feb. mean of 9 (1877-'85) years.	Feb., 1886.	Departure.
				°	°	°
Austro-Hungary	30.08	30.14	+ 0.06	38.3	33.5	— 4.8
British Isles	29.87	30.13	+ 0.26	43.7	38.4	— 5.3
Denmark	29.91	30.23	+ 0.32	35.0	29.5	— 5.5
France	30.06	30.11	+ 0.05	47.5	41.9	— 5.6
Germany	30.02	30.17	+ 0.15	38.5	30.6	— 7.9
India	29.88	29.88	normal.	74.7	76.3	+ 1.6
Italy	30.06	30.01	— 0.05	50.5	47.7	— 2.8
Norway	29.77	30 18	+ 0.41	32.7	31.5	— 1.2
Russia	30.06	30.50	+ 0.44	26.3	19.9	— 6.4
Spain*	30.10	30.08	— 0.02	55.0	49.4	— 5.6
Sweden	29.87	30.35	+ 0.48	25.5	24.0	— 1.5

* Means for eight years only.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bellary, India	89.4	31.9	Barnaul, Siberia	— 6.7	—21.5
Springbok, Cape Colony	85.8	29.9	Fort Garry, Manitoba	— 5.0	—20.6
San Salvador, Africa	83.5	28.6	Fort Saint Michael's, Alaska	— 3.3	—19.6
Mauritius, Indian Ocean	83.1	28.4	Saint Vincent, Minnesota	— 0.8	—18.2
Fort Napier, Natal	82.5	28.0	Fort Alexander, Alaska	9.4	—12.6
Bridgetown, Barbadoes	81.6	27.6	Haparanda, Sweden	16.0	— 8.9

In the United States the prevailing winds were mostly from the northwest in the upper Mississippi and Missouri valleys, New England, and the middle Atlantic states; in the Lake region and Ohio Valley they were from south to southwest; in Washington Territory they were from south to southwest; in California from northeast to northwest; in other districts they were variable. In Canada south to west winds prevailed in the Maritime Provinces, while to the westward they were variable. Over the north Atlantic Ocean westerly winds prevailed north of the fortieth parallel; within the area of high south of the fortieth parallel they were variable, while to the southward of the thirtieth parallel they were easterly. Over the British Isles the winds were variable, except in the north of Scotland, where the prevailing direction was southerly; over the continent of Europe the winds were variable. In British India north to west winds prevailed over the northern half, while south of the twenty-second parallel they were variable. In the Japanese Islands north to west winds prevailed. At Behring's Island the prevailing wind was northeast; over the eastern portion of Behring Sea the prevailing winds were from north to east.

In the United States the precipitation was decidedly in excess of the average in New England and the middle Atlantic states, while marked deficiencies occurred on the Pacific coast, in the Gulf States, and central valleys. In Canada the precipitation everywhere slightly exceeded the average. Over the British Isles the precipitation was everywhere deficient. In the United States the most noteworthy meteorological features of the month were the excessive rains in southeastern New England from the 10th to 14th, during the prevalence of low area number ii. In Canada the principal features were marked variability in temperature, in which some extreme falls took place, giving in Ontario some of the lowest temperatures recorded in many years, and the exceptionally severe storm, accompanied by a heavy snowfall, which prevailed in eastern Canada during the last few days of the month. Over the north Atlantic Ocean strong gales were experienced at the beginning and during the last ten days of the month, accompanied by high seas and remarkably low barometric readings; generally fair weather prevailed from the 6th to 19th. Over the British Isles heavy snow storms occurred during the month, and the weather was exceptionally cold and dreary. Over the continent of Europe the weather was cold and changeable during the first half of the month, while from the 15th to 28th the general conditions were more settled, although the temperature continued below the normal.

TRACKS OF AREAS OF LOW PRESSURE FOR FEBRUARY, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during February, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-three areas of low pressure are shown, of which nine are traced over the North American continent; ten over the north Atlantic Ocean; six over Europe and adjacent waters; and eight off the eastern coast of Asia, over the Japanese Islands, the north Pacific Ocean, and Behring Sea. The average number of areas of low pressure traced over the North American continent for the month of February

during the last twelve years is 11.8, or 2.8 greater than the number traced for February, 1886.

Of the low areas charted six were first observed in the region north of Montana and Dakota; one first appeared in the central Rocky Mountain districts, and two advanced northeastward from the lower Rio Grande valley. The low areas originating to the northward of Dakota generally moved southeastward to the Mississippi River, and all moved to the north of east as they approached the Atlantic coast.

These storms are described in detail in the MONTHLY WEATHER REVIEW for February, 1886, under the heading "Areas of low pressure."

Of the ten depressions traced over the north Atlantic Ocean five were continuations of storms which first appeared over the North American continent; one apparently originated in the Caribbean Sea and passed northward over the eastern extremity of Cuba; one first appeared southward of Nova Scotia; one developed southeast of Newfoundland; one is first charted on the south coast of Iceland under date of the 11th; and one passed southeast from mid-ocean to the southwest coast of Portugal. The general course of direction of the depressions was northeastward, the principal exception being number xiv which moved southeast.

The following are brief descriptions of the more important storms which appeared over the north Atlantic Ocean during the month:

On the 2d a depression, number x, exhibiting barometric pressure ranging below 29.60 (751.8) appeared southeast of Nova Scotia, and a deep depression was central off the west coast of Norway; over mid-ocean, in the vicinity of the Azores, the barometer ranged above 30.40 (772.1). By the 3d depression number x had circled northeast to N. 52°, where pressure about 29.10 (739.1) was shown, with hard gales and rain to the westward of the thirtieth meridian; the depression central on the 2d on the west coast of Norway had appreciably lessened in depth, and the area of high over mid-ocean exhibited a marked fall in central pressure. By the 4th depression number x had advanced northeast and was apparently central off the south extremity of Greenland, with an appreciable increase in central pressure. On this date depression number xi, which was a continuation of land depression number i, passed off the coast of the United States in about N. 33°, with central pressure about 29.50 (749.3) and a large display of energy. The area of high pressure over the Azores had contracted in area and exhibited barometric readings ranging above 30.40 (772.1). By the 5th depression number x had passed northeast to the west coast of Iceland, with barometric pressure 29.28 (743.7) at Stykkisholm; depression number xi had advanced rapidly northeast to the south of Newfoundland, with central pressure ranging below 29.20 (741.7): a circumscribed area of high pressure, bounded by the isobar of 30.60 (777.2), was located over the Azores. By the 6th depression number xi had moved rapidly northeast and appeared as an area of low pressure extending southwestward from Iceland; the area of high over the Azores exhibited slight changes in pressure and location. By the 7th depression number xi had passed to the northeast of Iceland, with recorded pressure 28.52 (724.4) at Stykkisholm at 12 noon, Greenwich mean time; the area of high over the Azores had elongated northeastward, and the pressure was generally high over the entire ocean south of the forty-fifth parallel.

On the 8th there were indications of the formation of a cyclonic area in the Caribbean Sea in about W. 75°, and the charts for the two succeeding days show the northward movement of a slight depression, number xii, which last appeared in the vicinity of Bermuda on the 10th. The pressure continued low over Iceland and vicinity until the 11th, under which date depression number xiii is located off the south coast, with barometric minimum ranging below 29.00 (736.6); during this period the pressure continued high over the eastern half of the ocean south of the fiftieth parallel, this territory being included within an area of high barometer which extended over central and southwestern Europe. By the 12th depression number xiii had advanced to the east coast of Iceland, with an appreciable increase in pressure; an area of high barometer, exhibiting barometric maxima ranging to 30.80 (782.3), appeared over the Banks of Newfoundland, whence it had advanced from the westward. By the 13th depression number xiii had moved slowly eastward, with pressure 29.45 (748.0) at Thorshavn, Färöe Islands, and the area of high barometer had moved southeastward from the Banks of Newfoundland, with a marked decrease in central pressure. By the 14th depression number xiii had passed southeast to N. 61°, longitude 0°, with a slight display of energy; depression number xiv appeared in N. 49°, W. 22°, whence it had apparently advanced from the northwestward; the depression exhibited great energy and had central pressure about 29.54 (750.3); the area of high pressure continued to move southeastward over the western half of the ocean, and a deep depression was central over the lower Saint Lawrence valley. By the 15th depression number xiii had passed northeast along the Norwegian coast where it apparently dissipated; depression number xiv had moved southeast to N. 43°, W. 16°, accompanied by rain and gales of marked violence; the depression central on the 14th over the lower Saint Lawrence valley had filled up, and slight barometric changes had occurred within the area of high to the westward of the Azores.

By the 16th depression number xiv had passed southeast to N. 38°, W. 14°; a deep depression was central over the mouth of the Saint Lawrence River, whence it had advanced rapidly from the southwestward, and the pressure was generally below the normal from coast to coast. By the 17th depression number xiv had advanced to the southwest coast of Portugal, with pressure 29.54 (750.3) at Lisbon; depression number xv, a continuation of land depression number iv, had passed northeast off the coast of Labrador, and an area of high barometer moving off the central coast of the United States caused high pressure to W. 38° between the thirtieth and fortieth parallels. During the 18th and 19th depression number xiv remained nearly stationary off the southwest coast of Portugal, after which it apparently dispersed; depression number xv moved northeast to the west coast of Iceland by the 18th, after which it disappeared without developing noteworthy features, while an area of high barometer moving from the westward extended on the 18th from Newfoundland southeastward over twenty degrees of latitude. By the 19th depression number xvi, which had developed within the northern limit of the high noted under date of the 18th, appeared over mid-ocean, with central pressure about 29.20 (741.7); an area of high which had moved eastward extended over the ocean south of Nova Scotia, and the high barometer noted under date of the 18th had apparently dispersed with the development of depression number xvi. By the 20th depression number xvi had moved northeast to N. 57°, W. 22°, accompanied by strong gales and pressure ranging to about 29.20 (741.7); to the southwestward of this depression, and to the eastward of a cyclonic area central over New England, a somewhat limited area of high barometer appeared. By the 21st depression number xvi had advanced to the vicinity of Iceland, with pressure 29.24 (742.7), snow and hard gales at Stykkisholm; depression number xvii, a continuation of land depression number v, had passed southeastward from Newfoundland, with pressure ranging below 29.00 (736.6), and the area of high over the ocean had contracted southeastward to the vicinity of the Azores.

By the 22d depression number xvi had circled northeast to N. 48°, W. 37°, with a marked loss of energy, and the area of high pressure had moved southward and extended from W. 25° to W. 65° south of the thirty-seventh parallel. By the 23d depression number xvii had advanced to N. 53°, W. 30°, and the formation of a secondary depression was indicated to the southwestward of this position; a cyclonic area of slight depth was central over the lower Saint Lawrence valley, and a limited area of high barometer appeared northeast of the West Indies.

By the 24th depression number xvii had apparently dissipated over the ocean south of Iceland; depression number xviii, a continuation of land depression number vii, had advanced southeast over Newfoundland, and the depression noted under date of the 23d as being secondary to number xvii had remained about stationary, with a large decrease in central pressure; on this date the barometric pressure was generally low, except off the south Atlantic coast of the United States and to the northward of the British Isles. By the 25th depression number xviii had moved eastward to N. 43°, W. 45°, and the depression located over the ocean to the eastward on the preceding day had been absorbed within its area; the storms which accompanied depression number xviii during this date were of exceptional violence, and barometric minima ranging to about 28.60 (726.4) were indicated within the storm circle; from the lower Saint Lawrence valley southward to Bermuda the barometer was high. By the 26th depression number xviii had moved slowly eastward, with a marked rise in central pressure, after which it apparently backed to the westward and united with depression number xix which passed eastward from Nova Scotia during the 27th, with pressure ranging below 28.80 (731.5). By the 28th depression number xix, a continuation of land depression number viii, passed southeast from Nova Scotia to N. 42°, W. 52°, with central pressure ranging to about 28.90 (734.0), and rain and hard gales over the western half of the ocean; on this date the development of a depression in about N. 50°, W. 24° was indicated; an area of high barometer was located over Iceland, and a second area of high extended over central Spain, Portugal, and the ocean to the southwestward.

Of the six depressions traced over Europe and adjacent waters, one was a continuation of ocean storm number xxv charted and described for January 1886; one appeared to the northward of Scandinavia, and four first appeared over, or in the vicinity of, the Mediterranean Sea. The direction of movement of the depressions was diversified, one passing northeast over Scandinavia, one advancing north over central Europe, two moving eastward over the Mediterranean, and one circling southwest and southeast over Italy. Over the greater part of Europe there were no gales during the month, the weather being generally anti-cyclonic. With the exception of the storm-areas which appeared over Scandinavia, within the limits of which barometric pressure ranging below 29.00 (736.6) was recorded, the depressions were of slight depth and devoid of noteworthy features. The presence of depressions over the Mediterranean during a considerable portion of the month contributed to unsettled meteorological conditions over southern Europe, while the almost continued occupation by areas of high pressure of central and eastern Europe occasioned the prevalence of weather unusually devoid of cyclonic developments.

Depression number xx advanced northeast over Norway during the 1st and 2d, with pressure below 29.00 (736.6); during these dates depression number xxi advanced northward from the Mediterranean over Italy and the Adriatic Sea, with central pressure below 29.50 (749.3), both storms contributing to cause unsettled weather over western and southern Europe. By the 3d depression number xx had developed an area of low pressure which extended from central France northward, and included the British Isles, the North Sea, and Scandinavia; depression number xxi had moved northward over Austro-Hungary, and unsettled weather continued west of the thirtieth meridian, except over Spain and Portugal, where it was generally fair. By the 4th depression number xxi had passed northward to the Baltic Sea, where slight energy was shown, after which it dissipated; on this date depression number xxii appeared over the Adriatic Sea, with central pressure about 29.60 (751.8). By the 5th depression number xxii had circled to the southern extremity of Italy, whence it passed eastward over the Ionian Sea and disappeared after the 6th. On the 10th a deep depression, number xxiii, occupied the ocean north of Scandinavia, after which its centre cannot be located; the pressure continued low, however, in this region until the 12th. From the 11th to the 15th, inclusive, a slight depression, number xxiv, is traced from the vicinity of Sicily, over the Mediterranean Sea and Turkey, to the east-southern coast of the Black Sea. From the 14th to the 19th, inclusive, ocean depression number xvi caused low pressure and unsettled weather over southwestern Europe. From the 18th to the 20th a storm-area which developed considerable strength is traced from the African coast southwest of Sicily to the eastern extremity of the Mediterranean Sea, after which it is given a probable northeast course to the Aral Sea by the 25th. During the balance of the month no well-defined depressions appeared over Europe.

The tracks of the eight depressions which appeared during the month off the east coast of Asia, over the Japanese Islands, Behring Sea, and the north Pacific Ocean, are rather evenly distributed over, and in the vicinity of, the Japanese and Aleutian Islands and the Alaska peninsula. The general course of direction of the depressions was east to northeast.

The month opened with a depression, number xxvi, which was a continuation of depression number xlix traced for January, 1886, central over the Kooril Islands, whence it had advanced from the vicinity of Hondo; the lowest recorded barometric reading within this area was 29.40 (746.7) at Nemuro, Yesso; over Alaska and the eastern portion of Behring Sea the pressure was high. By the 2d depression number xxvi had apparently advanced eastward over the ocean, and the pressure at Behring's Island was recorded 29.35 (745.5); an area of low appeared in the vicinity of Sitka, Alaska, and the high barometer over the eastern portion of Behring Sea on the 1st had moved slightly northeast. From the 2d to the 11th, inclusive, an area of low pressure occupied the ocean near, and extended over and to the eastward of, Sitka. During the 4th and 5th a depression apparently occupied the ocean to the eastward of the Japanese Islands, but an absence of reports from that region will not admit of locating its centre on those dates. On the 5th a depression appeared south of Corea, whence it had probably advanced from the vicinity of Formosa. By the 6th this depression had moved into the Sea of Japan and was central off the coast of Hondo, with pressure ranging below 29.60 (751.8). By the 7th the storm-centre had moved to the north coast of Yesso, where it remained nearly stationary as an area of low pressure until the 13th, after which date it moved eastward over the ocean beyond the region of observation. Depression number xxviii appeared on the 7th to the eastward of the Alaska peninsula, with recorded barometric pressure 29.25 (742.9) at Fort Alexander, Alaska, whence it passed eastward and united with the area of low pressure near Sitka; on this date the barometer was high over Behring's Island.

On the 13th depression number xxix appeared off the extremity of the Alaska peninsula, with recorded pressure 29.52 (749.8) at Unalashka. By the 14th this depression had moved slightly to the eastward of Unalashka, with central pressure below 29.30 (744.2), and by the 15th had advanced northeastward to the east of the central portion of the peninsula, with a marked increase in central pressure, after which it apparently filled up. On the 17th depression number xxx appeared over the ocean south of Unalashka, with pressure ranging below 29.30 (744.2). During the 18th and 19th this depression advanced slowly northeastward, and exhibited pressure 28.77 (730.7) at Unalashka on the latter date. By the 20th the centre of depression had moved northward into Behring Sea, where it had apparently filled up during that and the following date. On the 22d depression number xxxi appeared over Yesso, with barometric pressure 29.49 (749.0) at Nemuro, whence it had advanced from over the Sea of Japan. From this position the depression is given a probable northeast track over Behring Sea to the west coast of Alaska by the 27th. From the 21st to the 23d, inclusive, a depression of considerable depth, number xxxii, circled from the Aleutian Islands eastward and northward into Behring Sea, after which it apparently moved west and united with number xxxi, which was advancing from the southwestward. On the 26th depression

number xxxiii was central over the southern portion of the Sea of Okhotsk, whence it had advanced from the Sea of Japan, with lowest recorded pressure, 29.57 (751.1) at Nemuro, Yesso. Passing north of east during the next two days the depression is last located to the southward of Behring's Island at noon, Greenwich mean time, of the 28th.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that the lines so drawn are doubtful.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

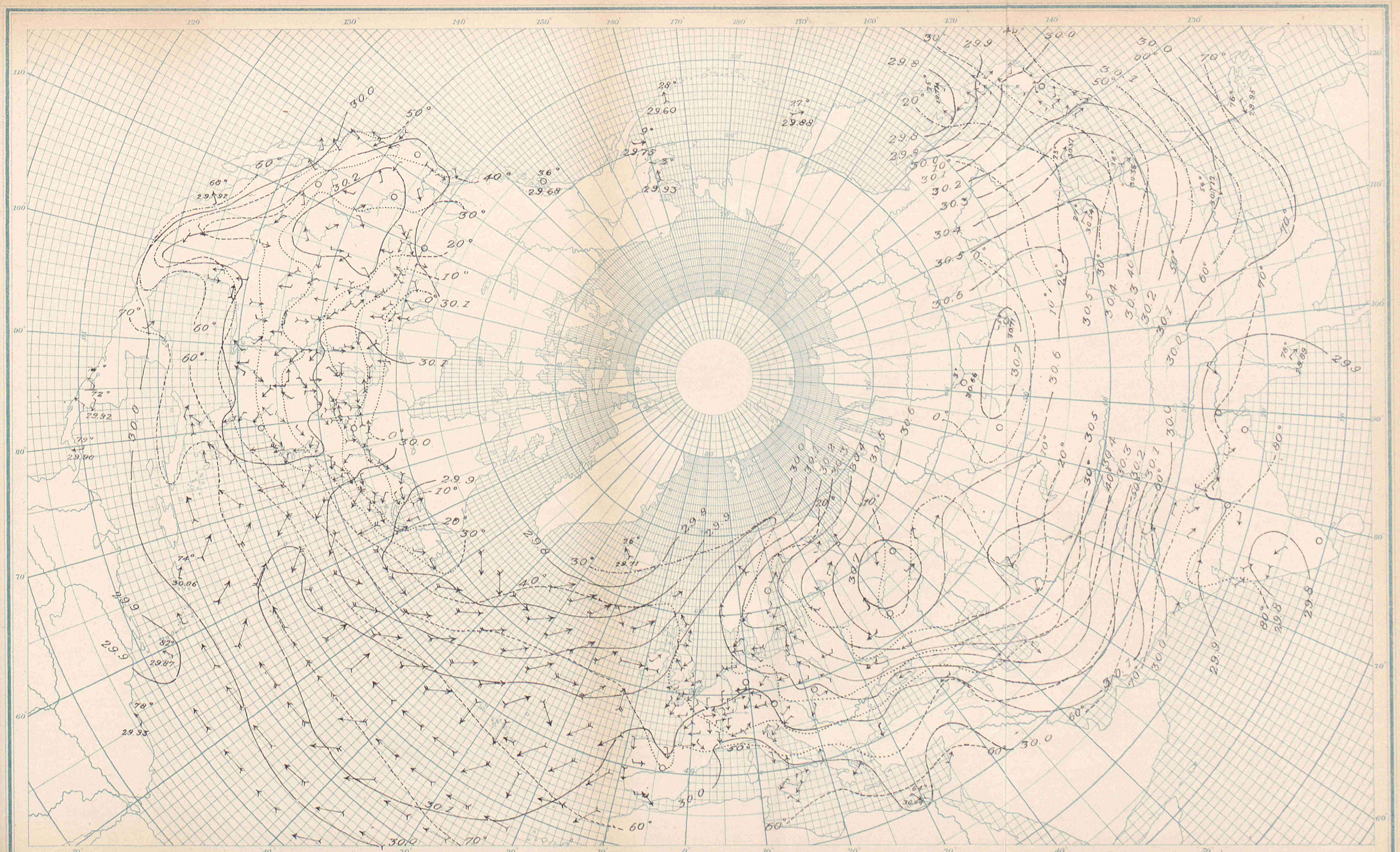
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

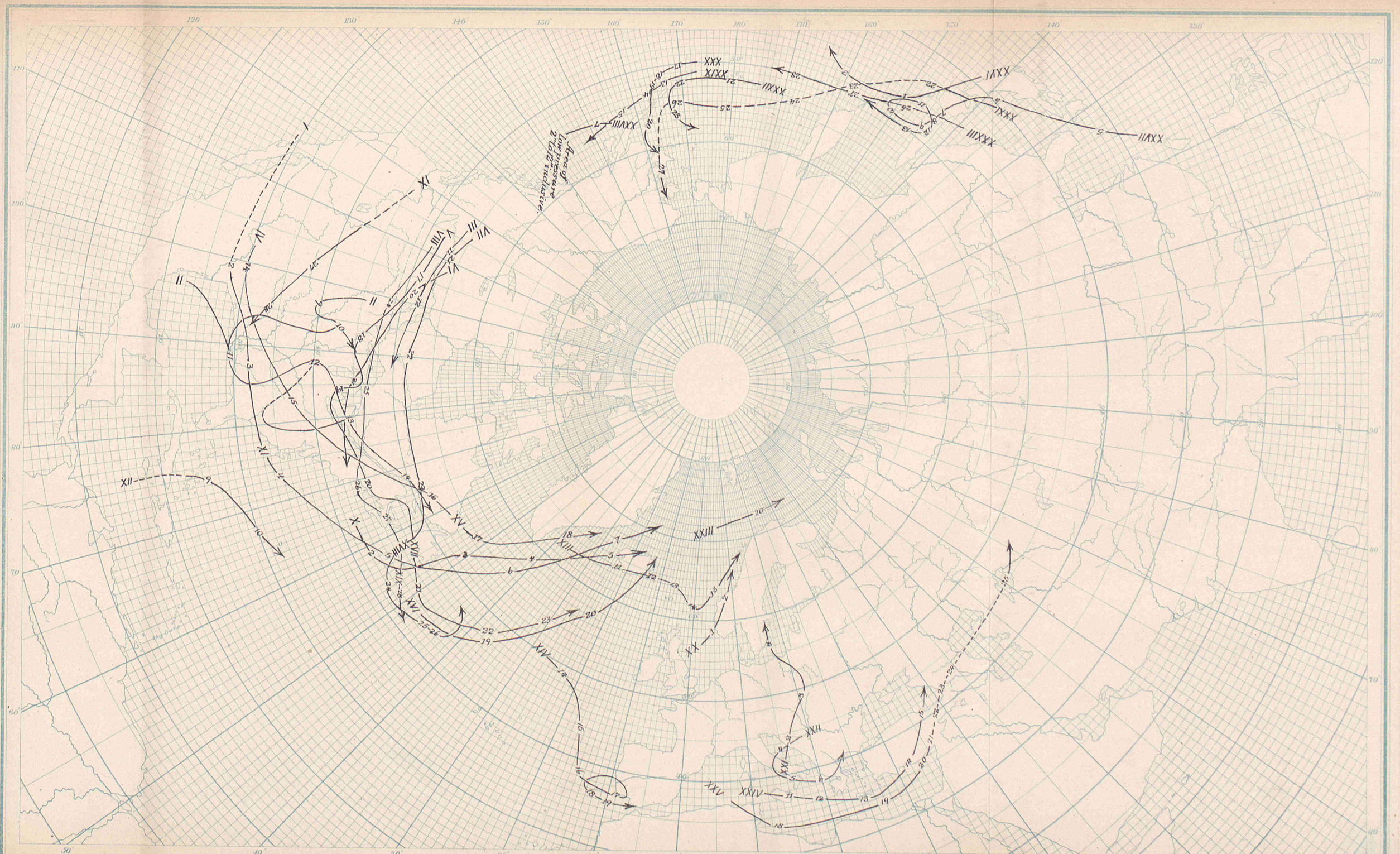
A. W. GREELY,
Chief Signal Officer.

International Chart II. February, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. February, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February, 1886—Continued.

Name of vessel.	Captain.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Celtic	Benj. Gleadell.
Germanic	C. W. Kennedy.
WILSON LINE.	
Br. s. s. Bravo	Charles Smith.
Bassano	W. Rea.
Chicago	J. W. Jones.
Galileo	Richard Potter.
Otranto	Wm. Rippeth.
Rialto	W. Rippeth.
Salerno	Wm. Abbott.
Sorrento	J. T. Rogers, RNR.
WATTS, WARD LINE.	
Br. s. s. Camden	S. R. Chandler.
MISCELLANEOUS.	
Br. s. s. Aboraca	Robt. Temple.
Br. Bedford	
Craighill	W. H. Bennett.
Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	Jos. Scholtz.
Span. Hugo	A. de Mugica.
Br. Joseph Ferens	John J .Mohegan.
Am. Lorenzo D. Baker	W. F. Wiley.
Lord Lansdowne	C. H. Baskfill.
Matthew Bedlington	Thos. Kirby.
Menzaleh	J. B. McKie.
Span. s. s. Navarro	S. de Aldecocea.
Br. Prydain	Moses Perry.
Ger. Raintea	J. Vieroek.
Br. Rydal Water	J. H. Jones.
Stag	James Adams.
Sulina	Thos. Potter.
Saint Romans	H. Campbell.
Strathleven	C. W. Pearson.
Span. Valentia	Ch. Offl. J. A. Estopiñá.
Br. Vertumnus	Capt. C. E. Cook.
Viola	L. Murray.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Am. Advance	J. R. Beers.
Br. Alsa	J. W. Samsom.
Albano	H. R. Hughes.
Alene	E. J. Scidders.
Am. Algiers	J. B. Percy.
Alvo	D. Williams.
Arizona	Sam. Brooks.
Baltic	G. Burton.
Belg. Belgenland	W. A. Beynon.
Br. Britanic	H. Perry.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Chicago	Fred. Watkins.
Celtic	Benj. Gleadell.
Am. City of Puebla	John Deakin.
Br. Claribel	T. M. McKnight.
City of Richmond	Authur Lewis.
Am. Colon	Chas. Linn.
Chalmette	Robert B. Quick.
Ger. Ems	W. Willigerod.
Br. Gallia	M. Murphy.
Dan. Geiser	F. V. Schierbeck.
Ger. Lessing	B. Voss.
Belg. Nederland	A. J. Griffin.
Br. Olympia	Capt. James Brown.
Oregon	P. Cottier.
Orinoco	S. Garvin.
Dtch. P. Caland	F. H. Bonjer.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—Con.	
Belg. Pennland	Capt. R. Weyer.
Br. Republic	P. J. Irving.
Belg. Rhynland	J. C. Jamison.
Am. San Marcos	Ch. Off. A. B. Conner.
Dtch. Schiedam	Capt. G. Bakker.
Br. State of Pennsylvania	A. J. Mann.
State of Nebraska	A. G. Braes.
Belg. Switzerland	H. Buschmann.
Dtch. W. A. Scholten	G. J. Vis.
Belg. Westernland	Com. W. G. Randle.
SAILING VESSELS.	
Br. bk. Abyssinian	Capt. John Hughes.
Am. bg. Abbie Clifford	D. W. Storer.
schr. Abbie H. Gheen	W. W. Gheen.
Br. bg. Achsah	A. M. Shaw.
bk. Ada Peard	N. Hoken.
Am schr. Annie R. Lewis	L. L. Lewis.
Ger. sp. Agra	H. Högemann.
bg. Arcot	J. W. Cates.
Nor. sp. Ariel	Fr. Schwings.
Nor. bk. Artemis	E. E. Moe.
Ger. Athena	A. Witte
Am. sp. Berlin	J. W. Dickenson.
Ger. bk. Betty	S. Wohlmuth.
Br. British Princess	F. W. Peterson.
sp. Caesarea	J. C. Barrette
Ger. sp. Caroline	Fr. Schluter.
Br. bk. Childwall	T. O. Watson.
Am. sp. Chas. S. Whitney	Geo. D. Spicer.
Ger. Columbus	B. Sauermilch.
Br. bkt. Corisande	D. Thoms.
Ger. bk. Cornelius	H. Windhorst.
Br. sp. City Camp	D. McLeod.
Ger. sp. Dora	H Meyer.
Am. schr. Ettie H. Lister	Smith D. Mason.
Am. schr. Edward R. Emerson	A. H. Child.
Am. schr. Emily Shepard	E Coggins.
Br. bk. Exile	G. J Pearce.
Am. schr. Florence Rogers	J. S. F. McLeod.
Dan. bk. Galeon	H. H Kalsboll.
Ger. sp. Georg	G. A. Scholtz.
Ger. bk. Godeffroy	C. H. Sinnig
Am. schr. Governor Hall	John Cain, jr.
Nor. bk. Grundloven	O. G. Ellingsen.
bk Harvester	W. Cassidy.
Am. Harvard	Samuel Pray.
Am. schr. Harriet S. Jackson	W. T Bacon.
Henry Waddington	W H. Magee.
Br. bg. Harry & Aubrey	J. N Tedford.
Ger. sp. Hedwig	Th. Minssen.
Br. bk. Iodine	Adam Smith.
It. Ismaele	C. Fiodo.
Am. bg. Jane Adeline	G. W. Cates.
Am. bg John Wesley	J. H. Hines.
Br. bk. Kryolith	W. C. Stephen.
Am. bg. L. & W. Armstrong	A. Alexander.
Am. bg. L. F. Munson	J. A. Smith.
Br. bg. Lilian	H. F. Schive.
Am. bkt. Louise Adelaide	E. Orr.
Nor. bk. Lovspring	G. Thomsen.
Br. bkt. Lydia	Geo. Lowery.
Am. sp. Magellan	E. S. Manson.
Am. bg. Mary Fink	D. B. Darrah.
sp. Mary L. Cushing	C. Downs.
Br. sp. Morna	J. H. Goodwin.
Am. bkt. Nellie M. Slade	J. A. Gould.
It. bk. Padre	M. Schiaffino.
Br. bk. Recovery	T. E Blagdon.
Dan. bk Rialto	N. P. Hanson.
It. bk. Rosina	G. Tomaselli.
Am. sp. Rembrandt	J. W. McGilvery.
Br. sp. Sardomene	T. C. Pitt
Am. schr. Sarah D. J. Rawson	Thos. D. French.
Am. sp. St. David	W. W. Frost.
Br. sp. Servia	E. M. Smith
Am. bk. Sarah	L. R. Hall.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Br. sp. Sapphire	Capt. G. W. Murray.
Am. sp. St. John	O. H. Fales.
Am. bg. Tenerife	W. S. Richardson.
bk. Tillie Baker	J. H. Carty.
Nor. bk. Tros	S. Brager.
Ger. sp. Union	H. Fokken.
Ger. bk. Western Chief	Fr. Sander.
Am. schr. Wm. H. Stuart	Charles Brown.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Enterprise	Albert S. Baker.
U. S. S. Hartford	Charles M. Thomas
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	Com. B. F. Day.
U. S. S. Nipsic	Capt. W. S. Dana.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	H. T. Monahon.
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsly.
U. S. S. Quinnebaug	C. S. Sperry.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	E. T. Windham.
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Vandalia	H. L. Howison.
U. S. S. Yantic	F. W. Green.
BRITISH NAVAL.	
H. M. S. Active	Com. R.O.B. Fitzroy, C.B.
H. M. S. Briton	Capt. R. M. Lloyd.
H. M. S. Bacchante	A. W. Moore.
H. M. S. Bellerphon	Fitz-Gerald.
H. M. S. Champion	A. T. Powlett.
H. M. S. Condor	W. C. H. Domville.
H. M. S. Cormorant	Nicolls.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dreadnought	F. G. D. Bodford.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Heroine	F. R. Blackburn.
H. M. S. Minotaur	B. F. Clark.
H. M. S. Myrmidon	R. T. Hoskyn
H. M. S. Midge	E. Hocham.
H. M. S. Mariner	J. Durnford.
H. M. S. Miranda	C. Cross.
H. M. S. Nelson	A. P. Lake.
H. M. S. Orontes	C. B Theobald.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Rambler	W. U. Moore.
H. M. S. Rifleman	C. G. Prater.
H. M. S. Sylvia	L. S. Dawson.
H. M. S. Satellite	A. H. Allington.
H. M. S. Sappho	W. M. F. Castle.
H. M. S. Temeraire	C. E. Domville.
SWEDISH NAVAL.	
H. S. M. S. Balder	G. E. Ulff.
DUTCH NAVAL.	
Bromo	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of February. 1886.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	Charles Todd, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Iván Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	J. C. McConney.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	T. W. Jent.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Secley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Righy, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	L. E. Horning, M. D.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Brest, Naval Observatory	M. de Kermarec, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferraud, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Valssade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Bailland, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Cassel	Dr. H. Mühl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Calcutta	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES.	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Misuka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Nilgata	T. Sato.

Stations.	Observers.
JAPANESE—*Continued.*	
Nobiru	R. Zuchi and T. Saito.
Numadzu	R Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal and Espana.
Mazatlan	F. Quyano, C. E.
Mexico	The Staff.
Puebla	E. Cappelletti.
Zacatecas	J. A. Bonillas, M. A.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjaesver	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sselwerstow.
Asburada	
Astrakhan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Buttkewitsch.
Kasan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacmsipeyx.
Kieff	Observatory.
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Liban	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nikolaiev	Capt. Kurdakow.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Sevastopol	Colonobr.
Starol Bykhov	Carl Hagen.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam and Geo. Redpath.
SPANISH.	
Bilbao, Met. Observatory	Tomas E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Vilfes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gaden, Ch't Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Cay Sal Light-house	Joshua Thompson.
Paramaribo, D. Guiana, S. A	Dr. C. J. Hering.
Pointe à Petre	L. Gueade.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MARCH, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JUNE, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Norwegian	R. Carruthers.
Prussian	Alex. McDougal.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. Burton.
British King	John Kelly.
British Prince	Samuel Nowell.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Acadia	John McKeague.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Furnessia	J. Hedderwick.
Italia	T. Craig.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Span. Alps	T. Anasagasti.
Br. Alvo	David Williams.
Alvena	O. Hughes.
Span. Andes	T. MacKnight.
BOOTH'S S. S. Co. (limited).	
Br. s s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
Chateau Yquem	J. le Chapelain.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gaeger.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Pavonia	B. Woodfenden.
Scythia	T. Roberts.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	Dr. C. Ollive, Obs.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
St. Germain	—— Boyer.
Labrador	P. dé Hauterive.
Normandiè	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
GUION LINE.	
Br. s. s. Arizona	Capt. S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Reessing.
Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con'd.	
Moravia	Capt. O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	E. Kopff.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Claymore	—— Gulland.
Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Bessel	Chas. J. Watson.
Dalton	J. Russell.
Belg. Hipparchus	W. Kelly.
Keppler	J. Dixon.
Br. Mozart	T. Sawyer.
Olbers	Jas Clark.
Teniers	J. McAuley.
Thales	J. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptain Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Persian Monarch	F. Paton.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Sumner
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Elder	H. Helmers.
Elbe	H. Richter.
Ems	W. Willigerod
Fulda	R. Ringk.
Habsburg	F. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Leipzig	C. Thalenhorst.
Main	H. Christoffers.
Rhein	C. Wiegand.
Werra	Richard Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R.N.R
Oceanic	J. Thomson.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	Capt K. S. Nickerson.
Chattahoochee	J. W. Catherine.
Juniata	S. L. Askins.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
PYMAN WATSON STEAMSHIP Co.	
Br. s. s. Netley Abbey	H. N. Vyvyan.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
Zaandam	A. Potjer.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nebraska	A. G. Brace.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Jan Breydal	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MARCH, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JUNE, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, MARCH, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.99	761.7	30.12	765.0	65.0	18.3	53	1	.....	2	8	5	7	1	.....	7	6188	9958	3	0.01	0.3
Hobart Town *b*	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.81	757.2	30.00	762.0	53.6	12.0	83	5	3	5	8	4	1	1	.....	2	.....	.....	7	1.37	34.8
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.99	761 7	30.07	763.8	59.3	15.2	79	.....	.....	5	5	9	8	1	3	.....	.....	.....	5	1.72	43.7
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.54	750.3	30.08	764.0	43.7	6.5	62	2	1	1	8	4	3	4	8	.....	.....	.....	5	2.72	69.0
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.31	744.5	30.12	765.0	32.4	0.2	82	4	5	1	6	1	.....	4	10	.....	.....	.....	5	1.11	28.1
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.17	740.9	30.09	764.2	30.9	— 0.6	78	10	.....	.....	.....	5	.....	.....	.....	16	.....	.....	6	0.91	23.0
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.78	731.1	30.07	763.7	41.5	5.3	60	1	4	3	12	1	6	1	2	1	.....	.....	3	0.70	17.8
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.68	728.4	30.08	764.0	36.0	2.2	79	.....	.....	5	4	.....	4	8	10	.....	.....	.....	5	2.08	52.8
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.07	738.4	30.11	764.9	33.3	0.7	71	2	8	1	3	2	5	3	7	.....	.....	.....	4	1.22	30.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.92	760.0	30.04	762.9	48.0	8.9	61	.....	2	6	1	1	7	6	7	1	.....	.....	3	2.23	56.7
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.17	740.8	30.05	763.2	44.6	7.0	64	8	6	5	1	3	7	.....	1	.....	.....	.....	5	1.73	44.0
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.74	755.3	30.03	762.7	43.5	6.4	65	1	6	2	5	3	4	1	5	4	.....	.....	6	1.24	31.4
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.96	761.0	30.06	763.5	47.7	8.7	55	.....	.....	.....	2	3	.....	1	3	10	12	.....	4	4.00	101.7
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.35	745.6	30.11	764.7	37.8	3.2	68	3	8	4	.....	.....	10	5	1	.....	.....	.....	5	1.65	41.9
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.75	755.6	29.92	760.0	79.9	26.6	77	2	17	1	1	.....	1	2	7	.....	.....	.....	5	3.03	76.9
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.83	757.7	29.96	761.0	39.5	4.2	75	1	3	3	3	9	6	4	2	.....	11420	18378	8	2.58	65.5
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.93	760.2	41.3	5.2	72	3	2	2	5	3	6	10	.....	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.51	749.5	29.93	760.2	40.9	4.9	81	3	1	1	8	3	4	6	5	.....	.....	.....	7	2.25	57.1
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.96	761 0	29.92	760.0	84.3	29.1	63	1	.....	.....	.....	.....	.....	2	28	.....	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.83	757.7	30.02	762.5	44.1	6.7	85	.....	1	1	6	3	2	5	1	12	.....	.....	8	.....	.....
Falmouth *a*	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.73	755.1	29.94	760.5	43.9	6.6	79	1	3	1	3	7	6	6	3	.....	.....	.....	8	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.69	754.1	29.86	758.4	82 4	28.0	90	11	.....	5	.....	11	2	2	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.74	755.4	29.80	756.9	44.2	6.8	78	5	.....	1	8	4	5	3	5	.....	.....	.....	6	4.18	106.2
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.07	763.8	30.12	765.0	59.5	15.3	93	.....	8	8	3	.....	.....	11	1	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.80	756.9	29.99	761.7	44.4	6.9	70	2	.....	1	7	7	2	5	7	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.67	753.6	29.98	761.5	44.5	6.9	82	3	.....	3	6	5	5	3	6	.....	9770	15723	6	3.03	77.0
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.94	760.5	30.00	762.0	43.5	6.4	68	1	2	3	6	6	1	5	7	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.68	753.9	29.96	761.0	43.7	6.5	74	2	1	2	10	1	7	1	7	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.91	759.7	29.96	761.0	57.1	13.9	78	.....	13	2	2	.....	4	.....	10	.....	.....	.....	4	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.04	763 0	30.04	763.0	72.6	22.6	76	5	.....	.....	3	5	10	2	6	.....	.....	.....	6	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.73	755.1	30.00	762.0	43.3	6.3	64	2	1	1	4	10	4	3	6	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.86	758.4	29.94	760.5	43.7	6.5	80	1	1	1	7	1	6	7	4	3	.....	.....	8	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.82	757.4	29.94	760.5	40.2	4.6	75	1	4	.....	7	.....	13	3	3	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.91	759.7	29.96	761.0	45.3	7.4	75	13	.....	.....	.....	4	3	.....	9	2	.....	.....	8	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.95	760.7	40.6	4.8	71	2	1	3	6	3	3	8	5	.....	.....	.....	8	3.67	93.2
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.77	756.1	29.82	757.4	45.3	7.4	80	.....	2	.....	5	5	12	3	4	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.65	753.1	30.01	762.2	57.5	14 2	68	1	14	6	1	1	3	4	1	.....	5520	8882	7	0.99	25.1
Canadian.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.79	756.6	29.84	757.9	18.9	— 7.3	.....	4	7	3	1	.....	.....	3	1	12	.....	.....	7	5.82	147.8
Bird Rocks	N. 37 50	W. 61 10	7.56 a.m.			29.62	752.3	29.76	755.9	22.4	— 5.3	92	14	1	1	3	2	2	1	7	.....	.....	.....	7	0.82	20.8
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.74	755.4	29.78	756.4	22.5	— 5.3	84	12	6	2	4	.....	3	.....	2	2	6660	10718	7	1.88	47.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.78	756.4	29.85	758.2	16.9	— 8.4	91	7	6	5	6	.....	1	2	4	.....	4252	6873	6	1.98	50.3
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	.....	.....	.....	.....	20.1	— 6.6	85	4	2	11	2	.....	.....	10	2	.....	.....	.....	6	2.40	61.0
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.79	756 6	29.85	758.2	16.2	— 8.8	.....	.....	.....	13	.....	.....	.....	1	15	.....	.....	.....	4	1.90	48.3
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.85	758.2	29.88	758.9	13.7	—10.2	89	8	3	1	7	3	.....	4	4	1	.....	.....	6	3.08	78 2
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.19	741.4	30.12	765.0	8.0	—13.3	94	3	6	.....	3	10	3	.....	4	2	7874	12672	6	1.38	35.1
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.67	753 6	29.88	758.9	20.6	— 6.3	77	6	9	8	.....	.....	.....	5	2	1	6691	11122	6	2.86	72.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.78	756.4	29.84	757.9	27.6	— 2.4	80	2	10	7	1	.....	1	4	2	4	9559	15384	6	2.65	67.3
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28 83	732 3	29.98	761.5	24.1	— 4.4	98	3	4	2	3	.....	2	2	15	3082	4960	8	3.95	100.3
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.67	753.6	29.81	757.2	25.1	— 3.8	82	9	5	5	1	.....	4	1	3	3	.....	.....	7	4.00	101.6
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.57	751.1	30.00	762.0	28.8	— 1.8	82	.....	.....	1	11	4	3	.....	.....	12	.....	.....	7	3.19	81.0
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.59	751.6	29.94	760.5	22.6	— 5.2	87	7	4	2	2	3	.....	2	11	.....	4648	7480	7	4.32	109.7
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.57	751.1	29.61	752.1	29.0	— 1.7	89	2	6	2	3	2	4	.....	11	1	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.06	738.1	29.92	759.9	26.0	— 3.3	90	1	5	2	2	.....	.....	.....	3	.....	18	3090	4973	8	4.89	124.2
Medicine Hat	N. 50 01	W.110 37	4.38 a.m.	2136	651	27.65	702.3	30.05	763.3	23.9	— 4.5	92	.....	.....	.....	3	4	5	3	1	14	7281	11717	4	0.32	8.1
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.08	713 2	30.10	764.5	5.6	—14.7	97	1	4	4	1	.....	2	2	1	16	6130	9865	4	0.40	10.2
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.72	754.9	29.94	760.5	18.5	— 7.5	77	7	2	10	5	1	1	2	3	.....	.....	.....	6	3.46	87.9
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.69	754.1	29.95	760.7	18.5	— 7.5	86	5	7	3	3	1	1	2	9	.....	4059	6532	7	3.72	94.5
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.23	742.4	29.98	761.5	19.3	— 7.1	82	2	2	6	.....	6	1	12	.....	2	7222	11622	6	3.68	93.5
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.23	742.4	29.98	761.5	22.6	— 5.2	86	1	10	1	3	.....	.....	2	9	5	.....	.....	7	4.40	111.8
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.32	744.7	30.10	764.5	10.0	—12.2	80	8	5	6	.....	1	.....	1	2	8	4111	6616	4	0.60	15.2
Port Dover	N. 42.47	W. 80 13	6.39 a.m.	635	194	29.24	742.7	29.79	756.7	26.8	— 2.9	94	4	5	5	3	2	.....	1	6	5	5471	8805	7	2.06	52.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.29	744.0	29.97	761.2	26.6	— 3.0	88	2	4	11	3	.....	1	4	5	1	.....	.....	6	3.23	82.0
Qu' Appelle	N. 50 44	W.103 42	5.05 a.m.	2115	645	29.58	751 3	30.11	764.8	10.8	—11.8	.....	.....	8	1	5	5	2	1	1	8	8939	14386	5	0.50	12.7
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.53	750.0	29.91	759.7	17.0	— 8.3	86	.....	6	9	4	1	.....	6	4	1	.....	.....	6	1.94	49.3
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.49	749.0	29.98	761.5	14.5	— 9.7	86	.....	12	.....	.....	.....	1	5	.....	13	.....	.....	6	3.40	86.4
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.76	755.9	29.81	757.2	23.5	— 4.7	89	1	15	1	.....	.....	2	4	5	3	.....	.....	5	3.36	85.3
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.71	754.6	29.84	757.9	23.0	— 5.0	81	7	11	3	1	.....	.....	2	1	6	.....	.....	6	3.36	85.3
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.61	752.1	33.3	0.7	.....	3	8	3	5	1	1	1	8	.....	.....	.....	.....	1.85	47.0
Sangeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.20	741.7	29.96	761.0	23.3	— 4.8	92	3	1	2	1	.....	4	2	2	16	6547	10536	5	3.50	88.9
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.			29.75	755.6	29.79	756.7	19.5	— 6.9	90	13	2	2	.....	2	.....	9	.....	3	.....	.....	4	0.45	11.4
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.64	727.4	29.99	761.7	23.7	— 4.6	90	7	4	4	5	4	.....	5	2	.....	5775	9294	7	3.32	84.3
Swift Current	N. 50 21	W. 107 33	4.50 a.m.			27.27	692.6	30.05	763.3	15.2	— 9.3	.....	1	.....	17	6	3	.....	2	.....	2	.....	.....	4	0.50	12.7
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.66	753.4	29.72	754.9	24.9	— 3.9	85	8	3	7	4	4	.....	2	2	1	8310	13373	7	3.05	77.5
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.56	750.8	29.97	761.2	26.4	— 3.1	85	3	8	5	3	2	1	2	6	1	.....	.....	7	3.27	83.1
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.89	733 8	30.00	762.0	25.0	— 3.9	80	1	3	0	7	3	1	2	7	1	.....	.....	7	2.52	64.0
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.76	755.9	29.86	758.4	27.8	— 2.3	82	5	4	6	2	.....	.....	10	3	1	.....	.....	6	3.76	95.5
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.48	748.8	29.58	751.3	28.0	— 2.2	90	.....	5	3	4	3	3	.....	13	.....	.....	.....	5	4.25	107.9
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.01	762 2	30.01	762.2	68.2	20.1	93	.....	.....	7	5	1	2	11	.....	5	.....	.....	3	1.80	45.7
Cape Town *g*	S. 34 02	E. 18 29	1.14 p.m.	?	?	29 94	760.5	.....	.....	76.5	24.7	50	.....	4	1	.....	.....	4	.....	.....	15	.....	.....	2	5.59	142.0
Springbok *a*	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.80	680.7	.....	.....	81.8	27.7	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.52	13.2
Chinese.																										
Hong Kong	N. 22 18	E.114 10	7.37 p.m.	110	34	29.95	760.7	30.01	762.2	61.5	16.4	89	3	.....	.....	2	.....	.....	18	8	.....	.....	.....	8	2.56	65.0
Sub-series.																										
Zi-Ka-Wei	N. 31 12	E.12 26	8.06 p.m.	23	7	30.16	766.0	30.14	765.6	45.3	7.4	84	7	2	.....	2	1	2	11	6	.....	.....	.....	8	3.01	76.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		RESULT OF SIMULTANEOUS OBSERVATIONS FOR MARCH, 1886.																				Average Cloudiness.	TOTAL PRECIPITATION.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	WIND.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
DANISH.	° ′	° ′																										
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	30.03	762.7	30.11	764.7	33.3	0.7	81	5	2	2	2	5	6	3	6	.....	.....	.....	7	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	30.01	762.2	30.06	763.5	32.0	0.0	91	.....	2	3	3	4	9	2	8	.....	.....	.....	7	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.65	753.1	29.74	755.5	30.0	— 1.1	84	.....	1	1	.....	1	13	5	8	2	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.78	756.4	29.84	758.0	40.3	4.6	74	4	.....	3	6	8	4	2	3	1	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.94	760.5	30.07	763 7	31.6	— 0.2	91	.....	1	.....	2	5	6	5	7	5	.....	.....	8	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.37	745.9	30.01	762 3	53.8	12.1	83	.....	4	1	3	3	1	.....	.....	19	.....	.....	6	2.09	53.1
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.46	748.3	30.02	762.6	46.0	7.8	73	1	.....	2	7	9	.....	1	11	.....	.....	.....	.....	2.09	53.0
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.81	757.2	30.07	763.8	44.4	6.9	76	2	2	2	5	1	7	5	6	1	.....	.....	5	1.46	37.2
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.95	760.8	30.03	762.8	55.6	13.1	55	11	5	1	5	4	2	1	2	.....	.....	.....	.....	1.75	44.5
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.46	748.3	30.04	763.0	47.1	8.4	66	.....	1	2	5	6	9	5	3	.....	.....	.....	6	2.13	54.1
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.70	754.4	30.01	762.2	48.0	8.9	83	2	1	1	9	.....	3	2	11	2	.....	.....	.....	1.45	36.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.08	738.6	30.00	761.9	47.3	8.5	88	1	.....	.....	.....	15	.....	4	11	.....	.....	.....	.....	3.08	78.3
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.74	755.5	30.00	762.1	55.0	12.8	62	2	4	2	4	.....	9	4	6	.....	.....	.....	4	2.54	64.4
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.48	748.9	30.02	762.5	51.1	10.6	68	1	2	6	3	2	2	7	8	.....	.....	.....	4	2.32	58.8
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.70	754.4	29.96	760.9	47.8	8.8	76	2	1	4	9	4	2	3	6	.....	.....	.....	8	3.83	97.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.92	759 9	30.00	762.1	47.5	8.6	84	.....	2	.....	8	8	5	3	5	.....	.....	.....	5	2.63	66.7
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.69	754.2	30.03	762.7	46.4	8.0	74	.....	12	5	8	3	5	3	5	.....	.....	.....	5	2.68	68.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.50	749.3	30.02	762.5	45.5	7.5	80	.....	.....	2	5	8	7	5	3	5	.....	.....	5	1.65	42.0
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.63	727.2	30.00	761.9	51.3	10.7	54	9	4	3	3	2	8	1	1	.....	.....	.....	5	1.42	36.1
Cluny *a*	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.17	741.0	30.04	762.9	48.6	9.2	66	1	1	3	9	2	2	1	10	1	.....	.....	.....	3.16	80 3
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.09	738.8	29.99	761.7	43.7	6.5	90	4	1	2	6	.....	1	15	1	1	.....	.....	5	0.16	4.1
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.48	697.9	30.05	763.2	46.6	8.1	64	.....	.....	.....	.....	.....	.....	.....	4	27	.....	.....	.....	4.82	122.3
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.87	733.4	30.01	762.2	52.0	11.1	57	6	1	9	.....	4	2	7	*2	.....	.....	.....	6	2.84	72.1
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.31	744.5	30.10	764.6	49.8	9.9	69	3	9	3	.....	2	1	5	2	6	.....	.....	.....	3.03	77.0
Guéret	N. 46 10	E. 1 52	0.07 p.m.	2486	453	28.36	720.4	29.95	760.6	48.4	9.1	75	1	.....	7	12	5	4	2	.....	.....	.....	.....	.....	2.43	61.7
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.41	747.0	29.98	761.6	61.7	16.5	55	.....	4	9	7	2	2	4	3	.....	.....	.....	.....	2.10	53.2
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.89	759.3	30.01	762.2	48.9	9.4	82	1	1	2	7	3	9	4	4	.....	.....	.....	5	3.73	94.8
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.97	735 7	30.04	763.0	48.0	8.9	62	5	5	.....	.....	.....	3	4	5	.....	.....	.....	6	0.34	8.5
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.69	754.2	30.02	762.5	47.1	8.4	76	1	.....	7	5	6	6	5	1	.....	.....	.....	5	2.11	53.6
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.74	755.4	30.00	762.1	55.2	12.9	60	.....	5	6	8	2	3	6	1	.....	.....	.....	.....	2.15	54.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	28.73	729 7	29.63	752.7	42.8	6.0	65	.....	.....	5	13	2	2	7	2	.....	.....	.....	6	3.22	81.9
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.92	759.9	29.98	761.4	48.0	8.9	64	7	5	2	.....	4	6	4	2	1	.....	.....	4	1.36	34.5
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.74	602.9	.....	.....	.....	.....	.....	.....	6	6	2	2	8	4	2	.....	.....	.....	4	7.47	189.8
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.25	742.9	30.04	763.0	43.0	6.1	78	2	3	2	7	3	2	.....	11	1	.....	.....	.....	1.16	29.4
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.87	758.7	30.02	762.5	50.2	10.1	66	.....	1	2	9	2	4	9	4	.....	.....	.....	6	3.12	79.2
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.92	760 0	29.98	761.6	56.5	13.6	74	.....	1	2	.....	.....	.....	1	.....	27	.....	.....	2	1.46	37.0
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.92	760.0	30.04	762.9	55.0	12.8	64	3	8	1	1	3	4	8	3	.....	.....	.....	.....	1.79	45.4
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.12	536.3	.....	.....	28.0	— 2.2	82	.....	8	11	3	.....	.....	1	.....	8	.....	.....	.....	5.04	128.1
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.98	736.2	30.04	763.0	50.5	10.3	68	15	.....	2	.....	12	1	1	.....	.....	.....	.....	.....	0.65	16.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.05	636.2	.....	.....	31.6	— 0.2	90	.....	1	7	13	1	4	.....	5	.....	.....	.....	7	3.15	80.0
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.97	761.2	30.00	761.9	54.1	12.3	73	.....	2	3	8	.....	6	7	5	.....	.....	.....	5	2.73	69.4
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.72	754.9	30.00	762.1	50.2	10.1	69	.....	1	5	8	1	6	8	2	.....	.....	.....	.....	2.72	69.2
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.88	708.1	30.06	763.6	48.2	9.0	58	16	1	.....	.....	3	7	4	.....	.....	.....	.....	4	3.68	93.4
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.98	761.5	30.04	763.0	47.1	8.4	66	1	1	4	6	4	6	5	4	.....	.....	.....	5	1.39	35.3
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.86	758.4	30.04	762.9	47.5	8.6	58	2	6	8	2	.....	4	7	2	.....	.....	.....	6	2.07	52.6
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.34	745.1	30.06	763.5	54.7	12.6	68	1	10	.....	2	.....	16	1	1	.....	.....	.....	7	1.98	50.2
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.84	757.9	30.02	762.5	*51.4	*10.8	69*a*	2	2	2	3	10	2	1	9	.....	.....	.....	.....	2.27	57.7
Sub-Series.																												
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.87	758.8	30.02	762.6	57.6	14.2	62	2	6	8	2	.....	4	7	2	.....	.....	.....	6	2.40	60.9
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.58	725.8	30.08	763.9	40.5	4.7	59	.....	2	5	7	1	3	3	8	2	.....	.....	4	1.66	42.2
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.17	740.8	30.02	762.6	40.6	4.8	61	5	.....	3	7	1	6	2	7	.....	.....	.....	6	1.68	42.6
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.93	760.2	30.11	764.8	38.1	3.4	61	.....	2	5	4	6	5	8	1	.....	.....	.....	6	1.33	33.7
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.57	751.0	30.11	764.9	35.6	2.0	71	2	3	5	2	5	6	4	4	.....	.....	.....	3	1.02	26.0
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.59	751.6	30.08	763.9	42.8	6.0	62	1	.....	.....	14	.....	3	.....	13	.....	.....	.....	6	3.42	86.9
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.30	744.3	30.04	763.0	40.6	4.8	68	5	2	1	5	9	2	1	6	.....	.....	.....	3	1.54	39.0
Frankfort on M.	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.66	753.4	30.11	764.9	42.1	5.6	59	4	.....	4	8	.....	2	5	8	.....	.....	.....	5	1.26	32.0
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.59	720.2	30.05	763.3	40.8	4.9	69	.....	1	4	15	2	.....	1	8	.....	.....	.....	5	4.37	110.9
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.97	761.2	30.10	764.4	36.7	2.6	83	6	1	1	5	1	9	4	4	.....	.....	.....	7	0.59	15.0
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	30.02	762.5	30.06	763.5	35.1	1.7	78	1	5	4	3	2	5	4	7	.....	.....	.....	.....	1.28	32.6
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.63	752.7	30.11	764.7	37.8	3.2	80	2	.....	2	4	8	3	5	7	.....	.....	.....	7	2.30	58.5
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.14	765.5	30.22	767.5	31.1	— 0.5	79	2	3	2	2	11	3	5	3	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.17	715.6	30.05	763.2	42.8	6.0	68	1	3	5	.....	.....	4	4	8	6	.....	.....	4	1.86	47.2
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.11	764.8	30.17	766.3	32.7	0.4	86	5	1	2	3	9	4	4	3	.....	.....	.....	6	0.37	9.5
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.51	749.5	30.03	762.8	41.7	5.4	73	7	.....	6	3	3	.....	3	5	4	.....	.....	6	3.16	80.2
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.14	740.2	29.98	761.6	44.1	6.7	64	3	4	2	7	.....	4	2	8	1	.....	.....	5	2.07	52.5
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.05	763 3	30.11	764.7	34.3	1.3	85	3	.....	2	4	2	9	4	6	1	.....	.....	7	0.87	22.1
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.57	751.0	29.94	760.4	56.1	13.4	64	7	2	1	5	.....	4	3	9	.....	.....	.....	7	2.44	61.9
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.82	757.3	29.82	757.3	80.7	27.1	54	.....	2	18	11	.....	.....	.....	.....	.....	.....	.....	3	0.21	5.3
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.36	745.9	29.78	756.3	90.9	32.7	14	3	7	13	5	.....	1	.....	2	.....	.....	.....	3	0	0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.83	757.6	29.80	757.0	81.6	27.6	66	3	21	7	.....	.....	.....	.....	.....	.....	.....	.....	0	0	0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.98	710.8	29.71	754.6	94.4	34.7	17	.....	8	16	1	.....	2	1	1	.....	.....	.....	2	0	0
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.30	693.5	29.72	754.8	85.8	29.9	38	1	2	14	3	2	1	5	1	.....	.....	.....	2	0.01	0.2
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.13	740.0	29.82	757.4	73.9	23.3	51	5	3	4	1	1	3	4	3	7	.....	.....	6	2.34	59.4
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.93	734.8	29.79	756.6	77.6	25.3	40	2	.....	10	.....	3	3	2	11	.....	.....	.....	4	0.80	20.3
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.27	743.4	29.78	756.4	85.0	29.4	32	5	10	6	.....	.....	3	4	3	.....	.....	.....	4	0.23	5.8
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.76	730.5	29.71	754.7	92.2	33.4	21	2	3	6	4	3	3	5	3	2	.....	.....	4	0.30	7.6
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.48	723.3	29.75	755.6	86.9	30.5	23	4	9	3	.....	.....	3	.....	2	10	.....	.....	3	0.94	23.9
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.47	748.6	29.80	756.8	82.5	28.1	31	9	8	3	.....	1	1	1	4	4	.....	.....	4	0.48	12.2
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	397	94	29.51	749.5	29.77	756.1	86.5	30.3	34	4	20	.....	1	.....	.....	.....	2	.....	.....	.....	4	1.22	31.0
Patna *l*	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.58	751.4	29.72	754.8	88.2	31.2	35	3	10	1	.....	.....	.....	2	2	1	.....	.....	4	0.20	5.1
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.83	706.9	29.77	756.1	79.5	26.4	32	5	14	3	1	2	2	2	2	.....	.....	.....	3	2.11	53.6
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.82	757.5	29.79	756.6	82.0	27.8	56	4	4	4	9	7	1	1	3	12	.....	.....	3	2.35	59.7
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.71	754.6	29.78	756.3	81.1	27.3	44	1	.....	2	9	3	.....	1	3	12	.....	.....	3	1.04	52.1
Chittagong *g*	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.78	756.4	29.81	757.2	78.3	25.7	72	.....	3	7	5	2	2	1	.....	4	.....	.....	4	8.11	206.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.52	749.8	29.81	757.2	72.1	22.3	72	2	.....	1	5	.....	.....	.....	3	20	.....	.....	4	2.73	69.3
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.40	721 3	29.78	756.3	84.7	29.3	34	6	14	2	2	4	1	.....	.....	.....	.....	.....	4	0.06	1.5
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.31	719.1	29.66	753 4	95.3	35.2	22	.....	6	8	2	.....	14	1	.....	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.59	751.5	29.79	756.6	92.9	33.8	42	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	1.12	28.4
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.56	750.8	29.98	761.4	47.8	8.8	51	2	1	2	9	3	3	8	1	2	.....	.....	4	3.90	99.1
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.52	749.8	30.05	763.2	49.3	9.6	53	3	1	5	6	2	7	3	4	.....	.....	.....	6	1.39	35.2
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.91	759.7	30.02	762.5	47.8	8.8	53	3	5	1	5	1	5	1	9	1	.....	.....	4	2.37	60.3
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.11	739.4	30.03	762.8	48.9	9.4	55	.....	5	3	2	2	9	10	.....	.....	.....	.....	5	0.25	6.4
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.81	757.2	30.01	762.2	51.4	10.8	59	12	.....	.....	4	.....	9	2	3	1	.....	.....	5	2.96	75.1
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.99	761.7	30.04	762.9	47.5	8.6	67	14	1	2	2	.....	.....	5	7	.....	.....	.....	4	1.47	37.4
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.75	755.6	30.01	762 2	51.4	10.8	53	7	2	8	2	2	1	8	.....	.....	.....	.....	4	0.93	23.7
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.92	759.9	30.00	762.1	53.1	11.7	55	1	3	3	3	6	.....	6	9	.....	.....	.....	5	1.92	48.7
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.80	756.8	29.98	761.4	55.0	12.8	48	4	4	12	4	3	2	.....	2	.....	.....	.....	5	1.36	34.6
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.08	738.7	30.00	762.0	54.1	12.3	72	.....	15	11	.....	1	4	.....	.....	.....	.....	.....	6	5.37	136.3
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.76	756.0	30.02	762.4	58.5	14.7	59	1	9	1	1	1	5	.....	13	.....	.....	.....	6	4.11	104.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for March, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.93	760.3	29.98	761.4	58.1	14.5	68	6	3	3	1	1	2	9	6	.....	.....	.....	6	0.56	14.3
Sub-Series.																										
Stelvio	N. 46 32	E 10 25	0.42 p.m	8343	2543	22.00	558.8	.....	.....	22.6	— 5.2	71	1	1	4	6	1	2	5	11	.....	.....	.....	4	1.85	47.1
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.02	559.3	.....	.....	25.2	— 3.8	76	7	5	9	6	.....	.....	2	2	.....	.....	.....	5	.....	.....
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	30.06	763.5	30.08	764.5	34.4	1.3	79	6	1	11	1	.....	5	2	.....	5	.....	.....	6	5.47	138.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	30.03	762.7	30.05	763.3	31.2	— 0.5	73	1	3	9	4	8	1	2	.....	3	66137	69875	5	1.65	42.0
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	14	30.12	765.0	30.11	764.8	41.6	5.3	76	5	2	3	1	9	1	1	1	8	5077	8169	6	3.77	95.7
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.09	764.3	30.12	765.0	43.7	6.5	80	10	6	1	1	5	.....	1	2	5	.....	.....	5	4.37	111.4
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	30.02	762.4	30.02	762.5	32.4	0.2	79	2	.....	14	1	.....	.....	3	.....	11	6881	11073	5	1.60	40.5
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	30.01	762.2	30.08	764.0	45.2	7.3	78	1	2	12	1	.....	.....	7	4	4	.....	.....	4	4.93	125.1
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.12	765.1	30.11	764.8	45.1	7.3	80	16	.....	2	.....	.....	2	2	4	5	3334	5365	5	6.20	157.6
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	30.03	762.7	30.11	764.8	41.4	5.2	79	1	2	1	5	3	5	7	.....	6	4327	6963	7	5.09	128.7
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.13	765.2	30.10	764.6	52.9	11.6	78	4	8	.....	2	2	.....	8	1	6	2964	4770	7	5.94	150.7
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.96	761.0	30.11	764.9	43.6	6.4	77	9	6	2	.....	1	2	5	5	1	3322	5345	7	4.84	122.7
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.10	764.5	30.09	764.3	50.5	10.3	77	7	10	5	1	2	1	3	1	1	5720	9210	6	7.95	202.0
Misaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.11	764.7	30.10	764.5	52.0	11.1	80	6	.....	12	1	3	.....	6	.....	3	5887	8992	7	6.89	175.0
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.96	760.9	30.05	763.3	36.7	2.6	76	1	.....	6	15	3	.....	.....	2	4	3803	6120	5	1.11	28.1
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.93	760.2	30.10	764.7	48.4	9.1	79	13	3	1	4	2	2	.....	3	3	4374	7039	5	6.02	153.0
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.92	759.9	29.96	761.1	30.3	— 0.9	75	5	4	5	2	7	2	1	.....	5	5273	8486	4	2.89	73.0
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.08	764.0	30.10	764.5	39.7	4.3	77	1	2	5	3	1	7	1	1	10	5813	9355	5	3.02	76.5
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	30.08	764.0	30.08	764.0	37.7	3.2	79	3	4	8	.....	4	1	4	.....	7	9342	15040	4	1.38	34.8
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	30.03	762.6	30.04	762.8	45.9	7.7	78	1	1	4	1	3	.....	12	9	.....	.....	.....	6	2.60	66.0
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.08	764.1	30.11	764.7	45.3	7.4	78	8	4	.....	1	1	1	5	10	1	6648	10693	5	4.36	110.7
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.12	765.1	30.11	764.7	44.8	7.1	75	4	1	9	1	4	.....	8	3	1	5807	9345	6	6.37	161.8
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	30.00	762.0	30.12	765.0	46.0	7.8	75	2	2	5	5	1	1	5	1	9	.....	.....	6	6.14	155.8
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.84	758.0	29.88	759.0	31.7	— 0.2	82	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	1.62	41.3
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.92	760 0	29.99	761.7	30.9	— 0.6	74	2	1	7	1	10	3	.....	1	6	6268	10085	5	0.85	21.7
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	30.03	762.8	30.08	764.2	43 9	6.6	76	7	2	3	3	6	.....	8	2	.....	6999	11264	6	3.06	77.7
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.07	763.7	30.09	764.3	47.3	8.5	75	12	.....	2	.....	4	.....	1	.....	12	2754	4432	5	4.12	104.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.72	754.9	29.84	757.9	82.4	28.0	66	.....	1	.....	3	.....	2	18	7	.....	.....	.....	6	3.81	96.8
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a.m.	6762	2061	23.65	600.9	29.79	756.7	55.2	12.9	57	1	1	1	3	3	10	6	4	2	.....	.....	4	0	0
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.28	616.7	29.95	760.7	54.2	12.3	72	5	15	2	2	2	3	1	1	.....	.....	.....	8	Inap.	Inap.
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.71	754.6	29.92	760.0	65.2	18.4	83	1	14	1	1	.....	1	9	4	.....	.....	.....	4	.....	.....
Mexico a	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.05	585 4	30.06	763.5	52.5	11.4	62	.....	1	.....	.....	.....	.....	1	.....	28	.....	.....	1	0.04	1.1
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.38	593.7	29.96	761.0	59.7	15.4	60	.....	3	.....	3	4	5	1	1	14	.....	.....	2	0	0
Zacatecas	N. 22 47	W.102 26	5.10 a.m.	8100	2469	22.55	572.7	30.22	767.6	44.9	7.1	60	.....	.....	2	22	.....	6	1	.....	.....	.....	.....	4	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.03	762.7	30.05	763.2	40.6	4.8	.....	3	1	3	6	4	1	8	5	.....	.....	.....	.....	1.29	32.8
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.95	760.7	30.02	762.6	36.9	2.7	.....	3	2	2	7	2	6	8	1	.....	.....	.....	.....	1.91	48.5
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.00	762.0	30.02	762.5	36.9	2.7	.....	1	1	2	8	3	1	7	8	.....	.....	.....	.....	2.26	57.4
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.02	762.4	30.04	762.9	42.6	5.9	.....	2	1	1	9	1	.....	10	5	2	.....	.....	.....	0.33	8.4
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.98	761.4	30.01	763.1	42.6	5.9	.....	2	3	3	6	6	.....	6	5	.....	.....	.....	5	2.04	51.7
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.75	755.7	79.2	26.2	88	6	3	3	4	4	.....	2	1	8	.....	.....	8	1.77	44.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.94	760.5	30.04	763.1	37.9	3.3	76	3	3	4	.....	12	4	1	.....	4	.....	.....	5	5.76	146.2
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.88	758.9	29.97	761.2	36.9	2.7	72	3	.....	1	12	2	2	5	.....	6	.....	.....	8	2.76	70.0
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.93	760.2	30.12	765.1	31.6	— 0.2	70	3	.....	.....	12	6	.....	.....	3	7	.....	.....	7	1.27	32.3
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.61	752.0	29.69	754.1	31.6	— 0.2	.....	2	1	7	7	3	1	2	3	5	.....	.....	8	2.83	72.0
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.08	764.0	30.13	765.4	63.9	17.7	68	.....	.....	2	18	3	5	1	.....	2	.....	.....	6	0.72	18.2
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.76	755.8	30.08	763.9	58.8	14 9	77	6	2	.....	13	2	1	4	2	1	.....	.....	7	4.77	121.1
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.95	760.7	29.92	760.0	75.7	24.3	64	16	.....	.....	.....	.....	.....	2	13	.....	.....	.....	2	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.02	711.6	29.75	755.7	82.8	28.2	89	3	4	8	8	4	2	.....	.....	2	.....	.....	6	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.25	641.4	30.02	762.6	42.4	5.8	88	3	2	11	3	1	4	6	1	.....	.....	.....	8	48.67	1235.7
SCOTTISH.																										
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	.....	.....	29.96	761.0	.....	.....	.....	01	2	4	3	2	6	6	3	1	.....	.....	8	1.99	50.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.87	758.7	30.03	762.7	54.7	12.6	77	2	.....	3	7	9	1	6	3	.....	.....	.....	5	1.21	30.8
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.95	760 6	30.00	762.1	60.6	15.9	65	1	9	2	.....	7	4	1	.....	7	1871	3011	8	3.72	94.5
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.06	687.4	30.03	762.8	52.2	11.2	71	2	.....	.....	14	9	2	.....	4	.....	6319	10169	7	4.21	107.0
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.82	706.6	30.03	762.8	53.1	11.5	70	.....	1	8	7	1	2	2	4	6	7248	11665	7	2.66	67.7
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.08	738.5	30.00	761.9	56.3	13.5	78	.....	3	.....	16	3	2	1	5	1	7728	12565	9	11.66	296.2
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.98	761.5	29.99	761.7	69.3	20.7	80	8	.....	.....	.....	5	9	7	2	.....	.....	.....	4	0.58	14.6
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.93	760.2	29.91	759 8	79.3	26.3	66	.....	.....	.....	.....	.....	18	11	2	.....	.....	.....	5	Inap.	Inap.
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.04	762.9	30.11	764.8	62.8	17.1	76	.....	5	11	4	2	.....	7	.....	2	.....	.....	6	1.08	27.5
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.97	761.2	30.00	761.9	75.7	24.3	84	.....	1	.....	2	6	8	9	.....	5	.....	.....	5	6.76	117.6
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.82	757.5	29.91	759.8	24.4	— 4.2	84	3	3	2	2	11	.....	.....	1	9	.....	.....	5	1.13	28.6
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.89	759.3	29.99	761.8	32.7	0.4	79	2	4	3	15	1	.....	.....	2	4	.....	.....	5	0.90	22.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.95	760.7	30.04	763.1	36.1	2.3	61	.....	2	2	3	10	1	.....	2	11	.....	.....	3	0.60	15.2
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.91	759.6	30.12	765.0	33.1	0.6	69	2	.....	9	6	6	1	1	4	2	.....	.....	5	0.39	9.9
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	30.02	762 5	30.11	764.8	33.8	1.0	74	1	4	5	8	2	1	6	3	1	.....	.....	4	0.38	9.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.97	761.3	30.10	764.5	31.6	— 0.2	69	3	4	2	12	5	.....	3	2	.....	.....	.....	4	0 42	10.7
SWISS.																										
Geneva	N. 46 12	E. 6 08	0.25 p m	1339	408	28.61	726.6	30.05	763.2	44.8	7.1	66	16	1	4	1	8	1	.....	.....	.....	.....	.....	5	2.31	58.6
TURKISH.																										
Constantinople	N. 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.99	761.8	43.7	6.5	76	11	5	1	3	2	1	1	7	.....	.....	.....	8	4.15	105.5
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.04	763 0	57.9	14.4	.....	1	8	1	10	5	5	.....	1	.....	.....	.....	6	4.90	126
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.91	759.7	62.8	17.1	66	3	.....	5	16	.....	.....	1	4	2	.....	.....	.....	8.26	209.8
UNITED STATES.																										
New England states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.76	755.9	29.83	757.7	25.2	— 3.8	79	5	10	4	2	.....	.....	4	3	3	7130	11474	7	2.28	57.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.77	756.1	29.88	758.9	25.7	— 3.5	74	5	10	4	3	1	1	2	4	1	6553	10546	6	3.26	82.8
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.35	593.1	29.87	758 7	10.3	—12.1	96a	1	23	2	2	.....	1	1	.....	1	.....	.....	4	3.11	79.0
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.76	755.9	29.89	759.2	30.3	— 0.9	71	2	10	5	3	1	2	4	4	.....	10628	17104	6	3.20	81.3
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.87	758.7	29.89	759.2	31.3	— 0.4	82	6	6	4	5	3	1	2	3	1	12044	19381	6	5.42	137.7
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.89	759 2	29.93	760.2	31.6	— 0.2	79	4	6	1	1	4	1	3	3	8	5165	8312	6	4.64	117.9
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.82	757.4	29.93	760.2	30.7	— 0.7	77	6	7	3	.....	3	2	.....	6	4	7247	11663	6	3.20	81.3
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.88	758.9	29.97	761.2	29.1	— 1.6	76	5	14	1	2	6	.....	1	.....	2	5640	9076	7	2.73	69.3
New York City	N. 40 43	W. 74 00	7.04 a.m.	164	50	29.77	756.1	29.94	760 5	33.3	0.7	76	3	10	4	2	3	1	3	5	.....	10767	17328	6	3.54	89.9
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.84	757.9	29.96	761.0	35.6	2.0	75	.....	15	1	2	3	2	1	5	2	8609a	13855a	5	3.17	80.5
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.94	760.5	29.96	761.0	33.7	0.9	81	3	10	8	2	1	.....	5	2	.....	14608	23509	5	5.27	133.9
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.96	761.0	29.96	761.0	35.3	1.8	82	1	10	5	4	2	2	3	4	.....	7930	12762	4	3.40	86.4
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.96	761.0	30.00	762.0	37.3	2.9	71	3	12	3	1	1	5	3	3	.....	5347	9410	6	4.85	123.2
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.89	759.2	29.99	761.7	36.8	2.7	80	9	9	1	1	5	.....	2	2	2	6299	10137	5	6.41	162.8
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.98	761.5	29.97	761.2	38.2	3.4	77	3	10	2	3	5	4	3	1	.....	11570	18620	4	2.39	60.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		RESULT OF SIMULTANEOUS OBSERVATIONS FOR MARCH, 1886.																				Average Cloudiness.	TOTAL PRECIPITATION	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	WIND.															
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. STATES—Con.																												
M.At.States—Con.	° ′	° ′																										
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.00	762.0	30.00	762.0	41.3	5.2	76	6	6	2	8	1	1	2	5	.....	11209	18039	4	1.75	44.4
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.31	744.5	30.01	762.2	39.3	4.1	78	1	9	4	5	5	1	4	2	.....	4121	6632	6	5.79	147.1
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.00	762.0	30.01	762.2	41.5	5.3	74	7	1	2	7	3	1	1	7	2	6125	9857	4	2.36	59.9
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.02	762.5	30.01	762.2	43.8	6.6	76	6	1	4	8	2	.....	2	8	.....	12367	19802	4	4.90	124.5
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.02	762.5	30.01	762.2	46.2	7.9	81	8	5	5	5	3	.....	.....	5	.....	10201	16427	4	4.15	105.4
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.03	762.7	30.01	762.2	45.9	7.7	88	4	6	4	6	4	1	.....	6	.....	11807	18904	5	4.64	117.9
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.00	762.0	30.01	762.2	46.6	8.1	83	9	1	6	5	4	1	1	4	.....	8408	13531	5	5.46	138.7
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.00	762.0	30.03	762.7	47.4	8.6	79	6	3	4	5	6	.....	.....	5	2	5871	9448	5	5.60	142.2
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.18	741.2	30.03	762.7	41.5	5.3	78	5	1	2	7	5	.....	1	7	3	5126	8249	6	6.39	162.3
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.02	762.5	30.04	763.0	49.8	9.9	84	4	3	6	5	3	.....	2	5	3	5556	8949	6	2.60	66.0
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.88	758.9	30.04	763.0	46.7	8.2	84	1	4	12	1	6	3	.....	2	2	3776	6077	6	7.42	188.5
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.99	761.7	30.05	763.3	52.3	11.3	86	8	5	7	3	4	1	1	2	.....	6370	10251	5	3.16	80.3
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.03	762.7	30.04	763.0	55.5	13.1	88	1	8	5	2	5	2	.....	5	3	5213	8389	6	6.74	171.2
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.02	762.5	30.00	762.0	56.6	13.7	90	4	7	2	.....	2	5	2	8	1	7288	11729	7	12.14	308.4
Key West *b*	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.04	763.0	30.01	762 2	69.5	20.8	79	5	.....	.....	1	2	10	4	6	2	8429	13565	4	1.30	33.0
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.04	763 0	30.03	762 7	58.2	14.6	86	9	5	2	1	4	4	5	4	1	4980	8014	6	8.17	207.5
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.87	733.3	30.05	763.3	44.1	6.7	75	3	6	7	4	1	5	3	1	1	8535	13736	5	11.16	283.4
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.02	762.5	30.01	762.2	53.9	12.2	84	5	3	3	1	6	1	5	6	1	5556	8941	6	13.37	339.6
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.03	762.7	30.03	762.7	52.2	11.2	88	13	2	4	2	5	1	1	3	.....	6500	10460	6	14.62	371.3
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.81	757.2	30.01	762.2	49.7	9.8	81	6	1	3	2	5	6	2	5	1	4667	7511	6	6.86	174 2
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.84	757.9	30.02	762.5	49.3	9.6	84	3	.....	2	2	2	8	3	6	5	4304	6926	7	6.07	154.2
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.99	761.7	30.01	762.2	54.8	12.7	87	5	2	1	3	.....	10	3	6	1	6118	9846	6	8.41	213.6
West Gulf states																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.80	756.9	30.01	762.2	48.5	9.2	83	4	5	3	3	8	1	6	.....	1	5875	9455	6	6.32	160.5
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.54	750.3	30.03	762.7	40.9	4.9	80	2	5	3	1	2	6	10	2	.....	5682	9144	6	3.02	76.7
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.70	754.4	29.99	761.7	42.9	6.1	84	4	8	2	4	4	2	2	5	.....	5787	9313	6	3.45	87.6
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.00	762.0	30.00	762.0	57.1	13.9	85	6	3	2	1	4	7	6	2	.....	8956	14413	5	3.19	81.0
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.98	761.5	29.97	761.2	58.3	14.6	88	10	.....	.....	1	5	6	6	3	.....	11491	18493	6	3.16	80.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.49	749.0	30.03	762.7	49.5	9.7	82	3	5	2	2	8	3	3	5	.....	7493	12059	6	4.62	117.3
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.19	741.4	29.98	761.5	52.5	11.4	81	10	3	1	1	5	3	2	6	.....	7267	11695	8	2.39	60.7
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.93	760.2	29.94	760.5	61.4	16.3	92	9	1	1	1	8	.....	4	3	4	6574	10580	6	1.15	29.2
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.79	756.7	29.94	760.5	61.4	16.3	82	11	1	.....	.....	1	4	5	4	5	4596	7396	7	1.51	38.4
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.23	742.4	30.05	763.3	43.3	6.3	80	4	5	2	5	4	5	....	6	.....	5876	9456	7	12.77	324.4
Knoxville *a*	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.00	736.6	30.04	763.0	41.5	5.3	78	6	.....	12	1	.....	1	1	9	1	5620	9044	7	11.15	283.2
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.69	754.1	30.01	762.2	44.6	7.0	73	1	8	5	2	1	7	1	6	.....	5969	9606	6	3.00	76.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.44	747.8	30.02	762.5	41.8	5.4	77	1	4	5	4	4	3	5	.....	.....	6221	9995	7	4.76	120.9
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.42	747.3	30.00	762.0	38.5	3.6	78	6	2	3	5	5	1	.....	6	3	6587	10594	6	3.42	86.9
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.03	737.3	30.00	762.0	34.4	1.3	81	3	5	1	4	4	4	1	6	3	6429	10346	6	3.40	86.4
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.16	740.7	29.99	761.7	33.7	0.9	81	5	8	1	5	3	4	2	3	.....	5177	8332	6	2.85	72.4
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.33	745.0	30.01	762.2	36.3	2.4	79	7	2	.....	8	3	5	.....	5	1	7187	11566	6	2.27	57.7
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	247	29.12	739.6	30.01	762.2	34.0	1.1	78	6	2	5	5	3	4	1	6	.....	7048	11342	6	3.90	99.1
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.07	738.4	29.99	761.7	35.6	2.0	87	4	6	5	7	4	3	.....	2	.....	5613	9033	6	2.85	72.4
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.26	743.2	29.96	761.0	29.7	— 1.3	86	2	9	3	6	4	3	2	2	.....	9100	14645	8	2.85	72.4
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.20	741.7	29.98	761 5	28.6	— 1.9	88	4	2	5	8	5	.....	2	5	.....	8640	13904	8	4.23	107.4
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.57	751.1	29.95	760.7	27.1	— 2.7	82	3	10	2	1	6	6	2	1	.....	9130	14693	8	3.73	94.7
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.22	742 2	29.98	761.5	29.5	— 1.4	86	3	5	4	5	4	.....	5	3	2	7333	11801	7	3.03	77.0
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.30	744.2	30.01	762.2	31.0	— 0.6	81	4	4	3	9	2	1	2	6	.....	10064	16196	6	2.38	60.5
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.22	742.2	29.98	761.5	31.8	— 0.1	82	3	5	4	4	5	1	4	3	2	7535	12126	6	2.00	50.8
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.28	743.7	30.00	762.0	29.7	— 1.3	84	1	6	3	5	7	1	3	5	.....	7331	11798	6	2.28	57.9
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.26	743.2	30.00	762.0	31.0	— 0.6	84	5	5	1	4	3	1	4	7	1	7660	12327	6	1.70	43.2
Upper lake region																												
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.30	744.2	30.00	762.0	20.6	— 6.3	87	1	4	12	2	.....	1	6	2	3	7374	11867	6	5.56	141.2
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.32	744.7	30.03	762 7	18.2	— 7.7	83	12	4	.....	6	1	1	1	5	1	6660	10718	7	3.15	80.0
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.26	743.2	29.96	761.0	26.8	— 2.9	85	4	3	2	3	3	2	4	8	2	7316	11774	6	3.04	77.2
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.30	744.2	30.00	762.0	21.9	— 5.6	71	3	5	7	4	1	1	8	2	.....	8102	13039	6	1.97	50.0
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.27	743.4	30.05	763.3	20.3	— 6.5	80	.....	6	15	.....	3	.....	3	4	.....	6330	10187	7	2.19	55.6
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.27	743.4	29.98	761.5	26.3	— 3.2	83	3	9	1	4	5	2	1	6	.....	7902	12716	6	2.82	71.6
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.25	742.9	29.98	761.5	32.8	0.4	84	4	5	6	5	4	2	2	3	.....	6854	11030	6	1.79	45.5
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.23	742.4	30.01	762.2	27.7	— 2.4	86	7	4	5	3	2	2	2	6	.....	9412	15147	6	3.42	86.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.31	744.5	30.09	764.3	17.7	— 7.9	81	1	6	3	3	1	.....	.....	10	7	5311	8547	5	1.07	27.2
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	836	255	29.10	739.1	30.04	763.0	21.6	—5.8	84	3	9	3	.....	1	3	5	2	5	4382	7052	6	1.09	27.7
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.24	742.7	30.04	763.0	25.0	—3.9	77	10	4	3	1	7	.....	1	5	.....	6317	10166	6	1.36	34.5
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.33	745.0	30.01	762.2	28.0	—2.2	81	3	10	3	2	2	.....	4	7	.....	6331	10189	6	3.08	78.2
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.09	738.9	30.03	762.7	29.6	—1.3	84	5	5	.....	.....	2	4	2	11	3340	5375	7	1.41	35.8
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.29	744.0	30.02	762.5	25.3	—3.7	80	3	8	2	.....	5	.....	2	5	6	4223	6796	7	4.32	109.7
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.32	744.7	30.00	762.0	30.9	—0.6	84	3	9	3	4	3	1	4	4	.....	7091	11412	5	2.25	57.1
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.64	752.8	30.01	762.2	40.4	4.7	75	9	3	2	5	6	2	.....	4	.....	8457	13610	7	2.84	72.1
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.32	744 7	30.00	762.0	36.1	2.3	73	3	6	5	.....	7	2	3	5	.....	8170	13148	5	2.45	62.2
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.39	746.5	30.01	762.2	39.5	4.2	77	4	8	2	1	6	3	3	3	1	9991	16079	7	3.04	77.2
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	30.04	763.0	32.5	0.3	78	5	10	.....	1	6	2	2	3	2	6431	10350	7	1.35	34.3
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.84	732.5	30.06	763.5	26.9	—2.8	85	3	10	.....	.....	7	5	3	1	2	6439	10362	6	1.31	33.3
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.30	718.8	.....	.....	23.0	—5.0	85	4	10	1	.....	1	11	1	2	1	7165	11531	6	0.66	16.8
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.61	726.7	30.09	764.3	20.4	—6.4	84	5	7	1	1	1	6	3	4	3	7706	12401	6	0.62	15.7
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.68	728.5	30.06	763.5	23.2	—4.9	83	3	7	6	2	1	3	2	4	3	6613	10642	6	3.38	85.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.92	734.6	30.04	763.0	36.7	2.6	79	3	5	1	3	4	5	5	4	1	10167	16362	7	1.94	49.3
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.27	692.6	30.07	763.8	19.6	—6.9	77	7	4	9	4	1	2	3	1	.....	10058	16186	7	0.53	13.5
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.01	736.8	30.09	764.3	18.0	—7.8	88	8	4	1	3	5	4	3	2	1	9454	15216	6	0.14	3.6
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.16	740.7	30.12	765.0	11.8	—11.2	87	5	8	1	3	6	4	1	2	2	7627	12274	5	0.29	7.4
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.18	715.8	30.10	764.5	18.3	—7.6	89	6	7	.....	2	1	3	3	3	6	5016	8072	6	0.94	23.9
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.93	709.4	30.10	764.5	19.5	—6.9	87	2	4	9	1	2	3	2	8	.....	6881	11074	7	0.31	7.9
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.39	721.1	30.11	764.8	11.5	—11.4	83	4	9	1	3	6	6	...	.....	2	7933*h*	12767*h*	6	0.72	18.3
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27 09	688.1	30.12	765.0	22.6	—5.2	64	.....	1	2	17	.....	9	2	.....	.....	7786	12530	5	0.85	21.6
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.13	689.1	30.11	764.8	19.9	—6.7	77	.....	.....	2	6	.....	.....	.....	4	19	1749	2815	6	0.70	17.8
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.79	680.5	30.12	765.0	24.5	—4.2	83	6	.....	4	10	3	5	.....	1	2	5628	9057	5	0.36	9.1
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.44	646.2	30.04	763.0	24.0	—4.4	68	4	7	9	.....	1	2	2	5	1	6913	11125	6	2.25	57.1
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.28	667.5	30.09	764.3	25.5	—3.6	67	.....	1	8	14	1	1	1	3	.....	5076	8169	4	0.55	14.0
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.76	654.3	30.08	764.0	24.4	—4.2	70	.....	2	7	20	.....	1	1	.....	.....	5767	9281	5	1.00	25.4
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.84	707.1	30.15	765.8	20.2	—6.6	84	5	1	11	2	1	1	3	5	2	5657	9104	6	0.20	5.1
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.27	641.8	30.11	764.8	25.5	—3.6	81	1	.....	.....	10	2	1	1	10	6	2367	3809	5	2.12	53.8
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.85	605.8	30.04	763.0	23.0	—5.0	80	6	10	6	2	4	.....	1	1	1	9425	15168	4	1.36	34.5
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.02	686.3	30.06	763.5	23.5	—4.7	83	2	2	11	4	1	4	2	3	2	6271	10092	5	0.63	16.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for March, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. STATES—Con.	° ′	° ′																								
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	(4134	4308	17.44	443.0	30.02	762.5	1.4	−17.0	91	3	6	11	4	.....	.....	.....	6	1	20153	32432	3	4.72	119.9
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.51	724.1	30.02	762.5	28.8	−1.8	90	5	6	4	1	5	.....	5	4	1	7551	12152	6	2.56	65.0
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.64	625.8	30.07	763.8	26.7	−2.9	79	7	4	1	3	14	.....	.....	2	.....	5983	9628	4	2.36	59.9
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899?	1188?	25.96	659.4	30.01	762.2	28.0	−2.2	73	.....	8	6	6	2	.....	5	4	.....	7516	12096	4	0.33	8.4
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.37	695.2	30.05	763.3	31.0	−0.6	87	3	7	9	.....	1	5	3	3	.....	9689	15593	6	1.50	38.1
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.20	690.9	30.01	762.2	35.7	2.1	81	3	11	1	5	.....	8	1	2	.....	11324	18224	4	1.49	37.8
Southern slope.																										
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.77	730.7	30.03	762.7	39.1	3.9	72	7	3	1	2	6	3	1	8	.....	10356	18224	4	1.46	37.1
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.19	716.0	30.04	763.0	45.5	7.5	81	6	3	1	5	11	1	3	.....	1	9093	14634	5	2.47	62.7
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3004	916	26.95	684.5	29.99	761.7	43.8	6.6	55	.....	3	2	2	15	5	.....	1	3	7348	11825	3	0.08	2.0
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.13	638.3	29.97	761.2	41.6	5.3	50	3	2	7	12	.....	.....	.....	3	4	6244	10048	2	0.26	6.6
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	23.87	606.3	.....	.....	26.0	−3.3	71	.....	15	3	5	3	4	1	.....	.....	7795	12545	2	0.50	12.7
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622?	1104?	26.26	667.0	.....	.....	41.0	5.0	57	5	5	.....	1	.....	.....	7	7	6	5157	8299	1	0.60	15.2
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.15	588.0	30.05	763.3	27.4	−2.6	70	9	.....	1	.....	1	5	5	8	2	6545	10533	2	0.47	11.9
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.19	690.6	29.94	760.5	34.0	1.1	87	3	.....	6	.....	8	1	13	.....	.....	3716	5980	1	0.44	11.2
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	24.99	634.7	29.99	761.7	30.2	−1.0	73	5	.....	.....	8	.....	6	9	8	.....	5605	9020	1	1.06	26.9
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.18	639.6	29.98	761.5	39.4	4.1	51	10	13	3	.....	.....	3	.....	1	1	6149	9896	1	0.53	13.5
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.65	626.1	30.02	762.5	29.6	−1.3	86	.....	.....	6	6	2	.....	.....	2	15	5248	8446	2	3.04	77.2
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.83	757.7	29.95	760.7	50.2	10.1	73	3	6	2	1	3	2	8	5	1	5251	8450	2	0.33	8.4
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.21	665.7	29.98	761.5	41.2	5.1	54	.....	12	11	.....	.....	1	3	.....	4	4199	6758	2	0.28	7.1
Middle plateau.																										
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.39	594.1	.....	.....	19.0	−7.2	82	.....	.....	9	16	4	1	.....	1	.....	8153	13121	4	0.82	20.8
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.58	649.7	30.09	764.3	31.2	−0.4	72	2	7	1	.....	3	3	2	3	10	3736	6012	5	2.60	66.0
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1959	23.62	599.9	.....	.....	25.5	−3.6	76	7	6	2	13	1	.....	.....	1	1	7996	12868	5	0.28	7.1
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.60	650 2	30.10	764.5	28.5	−1.9	65	.....	.....	2	9	4	.....	3	13	.....	6779	10910	4	0.82	20.8
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.24	615.7	30.18	766.6	23.8	−4.6	78	.....	.....	1	4	8	12	6	.....	.....	5452	8774	5	0.49	12.4
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.36	641.1	.....	.....	29.0	−1.7	71	9	2	11	7	.....	.....	.....	2	4143	6667	5	1.48	37.6
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.18	690.4	30.10	764.5	32.7	0.4	80	.....	5	3	.....	2	13	4	2	2	4666	7509	4	0.82	20.8
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.98	710.7	30.12	765.0	32.9	0.5	81	1	.....	2	9	6	1	2	.....	10	4988	8027	5	1.07	27.2
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.96	735.6	.....	.....	39.0	3.9	68	.....	.....	1	11	13	4	1	1	.....	6256	10068	6	1.06	26.9
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.83	757.7	30.03	762.7	41.9	5.5	90	.....	.....	4	18	6	2	.....	...	1	8464	13621	7	8.26	209.8
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.00	762.0	30.05	763.3	36.3	2.4	91	.....	.....	.....	5	19	2	....	4	1	3791	6101	5	4.07	103.4
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.99	761.7	30.01	762.2	34.1	1.2	96	.....	.....	2	.....	28	1	.....	.....	.....	3138	5050	6	3.23	82.0
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.89	759 2	29.99	761.7	41.5	5.3	86	.....	3	.....	8	3	8	3	5	1	10216	16137	6	10.89	276.6
Portland	N. 45 32	W. 122 43	3.49 a.m.	80	24	29.98	761.5	30.07	763.8	38.9	3.8	91	1	3	.....	.....	14	1	.....	.....	12	4143	6667	4	5.39	136.9
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.52	749.8	30.09	764.3	38.5	3.6	88	2	1	.....	3	.....	.....	4	3	18	1726	2778	6	3.03	77.0
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.38	746.2	30.06	763.5	43.4	6.3	82	11	8	.....	.....	4	8	.....	.....	.....	16401	26394	5	2.08	52.8
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.71	754.6	30.05	763 3	46.4	8.0	77	9	7	1	1	4	2	1	1	5	5753	9258	5	1.31	33 3
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.98	761.5	30.03	762.7	46.3	7.9	83	1	8	.....	1	3	13	1	1	3	6567	10568	3	2.68	68.1
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.00	762 0	30.05	763.3	48.6	9.2	80	5	4	2	4	5	6	.....	2	3	5949	9574	4	2.07	52.6
S. Pac. coast reg'n.																										
San Luis Obispo	N. 35 18	W. 120 39	3.57 a.m.	270	82	29.75	755.6	30.02	762.5	42.4	5.8	86	8	2	.....	.....	3	5	3	1	9	4938	7947	4	2.42	61.5
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.67	753.6	30.00	762.0	47.3	8.5	90	2	2	1	.....	3	1	10	12	.....	4555	7330	4	2.52	64.0
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.96	761.0	30.00	762.0	50.1	10.1	85	3	2	1	2	2	2	3	8	8	4011	6455	5	3.73	94.7
Alaska stations.																										
Fort Alexander	N. 58 57	W. 158 18	1.27 a.m.	18	5	29.71	754.6	29.83	757.7	18.6	−7.4	87	.....	2	5	3	3	2	10	6	.....	.....	.....	8	2.85	72.4
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.74	755.4	29.82	757.4	3.7	−15.7	90	6	.....	1	9	1	2	6	5	1	11389	18328	6	0.46	11.7
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.62	752.3	29.72	754.9	36.8	2.7	84	.....	1	.....	.....	.....	13	4	1	12	3201	5151	8	10.08	256.0
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.74	755.4	29.78	756.4	31.6	−0.2	74	1	6	3	9	7	3	1	1	.....	10906	18361	7	4.74	120.4
Sub-Series.																										
Behring's Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.80	756.9	29.88	758.9	26.5	−3.1	91	9	2	1	4	5	2	5	3	1	10715	18054	8	1.33	33.8
Bluefields *f*	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.97	761.2	29.92	760.0	75.5	24.2	87	6	5	.....	5	.....	3	.....	6	.....	.....	.....	5	1.63	41.4
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.03	762.7	29.95	760.7	79.2	26.2	81	.....	.....	.....	.....	.....	1	30	.....	.....	.....	.....	5	1.01	25.7
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	63.1	17.3	.....	4	.....	.....	.....	.....	.....	.....	27	.....	.....	.....	.....	.....	.....
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.86	758.4	29.88	758.9	.....	.....	.....	7	2	4	6	.....	1	3	.....	8	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR MARCH, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.90	759.4	77.6	25.3	6		1				11	12		1	4.1
12.5 27.5	29.92	760.0	77.6	25.3							5	26			4.5
12.5 32.5	29.95	760.7	78.2	25.7							10	21			4.4
12.5 37.5	29.97	761.2	78.4	25.8	1						10	19		1	4.0
12.5 42.5	29.99	761.7	78.5	25.8							20	8		3	4.3
12.5 47.5	29.99	761.7	78.5	25.8								24		3	4.1
12.5 52.5	29.98	761.5	79.8	26.6	1					1		3		3	3.7
17.5 22.5	29.91	759.7	74.4	23.6						12		14			4.6
17.5 27.5	29.96	761.0	75.2	24.0	1							8			4.9
17.5 32.5	29.97	761.2	75.6	24.2							1	29			4.2
17.5 37.5	30.03	762.7	75.8	24.3						1	11	19			4.0
17.5 42.5	30.03	762.7	75.5	24.2					2	2	13	14			4.0
17.5 47.5	30.06	763.5	76.1	24.5	1			1	1	2	22	3		3	4.1
17.5 52.5	30.03	762.7	77.6	25.3			1		4	5	16	2		2	3.9
17.5 57.5	29.99	761.7	79.4	26.3	2		1		8	5	13	3		1	3.5
22.5 22.5	29.96	761.0	71.1	21.7	3	1			5	5	14	3		1	4.4
22.5 27.5	30.05	763.3	72.2	22.3	1	2				1	11	14		1	4.1
22.5 32.5	29.97	763.8	73.1	22.8	3	1				3	14	10		1	3.7
22.5 37.5	30.10	764.5	73.3	22.9	3	1	2	1	4	4	8	10		1	3.8
22.5 42.5	30.10	764.5	73.1	22.8	3	1	2	4	7	3	4	8		2	3.4
22.5 47.5	30.07	763.8	73.1	22.8	2	2	2	4	6	2	6	6		1	3.9
22.5 52.5	30.05	763.3	73.6	23.1	1	3	3	5	5	2	7	5		2	4.3
22.5 57.5	30.03	762.7	74.0	23.3	4	2	5	4	5	5	5	2		2	4.2
22.5 62.5	30.01	762.2	73.9	23.3	4	3	5	2	4	3	6	2		1	4.3
22.5 67.5	30.02	762.5	73.9	23.3	7	5	2	1	2	3	6	4		2	4.2
22.5 72.5	30.02	762.5	74.5	23.6	8	3				3	6	4	1	2	4.1
27.5 22.5	30.11	764.8	68.2	20.1	2	1	1	2	1	5	10	4			3.9
27.5 27.5	30.12	765.0	69.4	20.8		2	3	1	3	5	8	8		1	3.9
27.5 32.5	30.11	764.8	69.7	20.9	2	4	1	4	8	5	4	7		1	3.7
27.5 37.5	30.10	764.5	69.5	20.8	1	7	2	8	8	2	4	3	1	2	4.4
27.5 42.5	30.07	763.8	69.1	20.6	1	7	4	8	5	1		5		2	4.5
27.5 47.5	30.04	763.0	68.8	20.4	1	4	7	11	4	1	4	1		1	5.0
27.5 52.5	30.02	762.5	68.7	20.4	3	4	5	9		1	4			3	5.1
27.5 57.5	29.96	761.0	68.2	20.1	2	4	9	5	1	1	4	1		3	4.5
27.5 62.5	30.00	762.0	67.9	19.9	5	8	5	2	1	2	3	2		3	5.1
27.5 67.5	30.02	762.5	68.4	20.2	6	9	2	1	2	3	4			2	4.6
27.5 72.5	30.04	763.0	68.7	20.4	7	6		2	2	4	2	3		2	4.6
27.5 77.5	30.04	763.0	67.1	19.5	7	2	2	2	6	4	4	2			4.3
32.5 12.5	30.12	765.0	64.2	17.9	3	2	4	1	6	8		3	1		3.7
32.5 17.5	30.14	765.5	63.9	17.7	5	2	3	9	8	2	6	5			3.0
32.5 22.5	30.12	765.0	65.6	18.7	3	3	2	9	5	1	1	4	1		4.4
32.5 27.5	30.10	764.5	66.3	19.1	2	1	7	10	6	2	1	5			4.9
32.5 32.5	30.06	763.5	66.5	19.2		3	3	16	5		1	5			5.2
32.5 37.5	30.00	762.0	65.7	18.7		2	6	16	2		2	3		2	5.4
32.5 42.5	29.97	761.2	64.4	18.0	1	6	7	12	1		2	3		1	5.6
32.5 47.5	29.93	760.2	63.8	17.7	1	6	8	11		1	3	1			5.4
32.5 52.5	29.92	760.0	63.3	17.4	1	8	8	8	1	1	4				5.5
32.5 57.5	29.92	760.0	62.0	16.7	1	9	11	4	1	3	1			1	5.4
32.5 62.5	29.95	760.7	60.9	16.1	1	13	5	7	1	5					5.6
32.5 67.5	29.99	761.7	60.6	15.9	3	13	3	6	3	2					5.2
32.5 72.5	30.00	762.0	59.8	15.4	9	5	3	4	4	1			1		5.1
32.5 77.5	30.03	762.7	52.9	11.6	10	3	2	6	7	1		1	1		4.1
37.5 12.5	30.10	764.5	60.7	15.9	5	4	5	13	5	3		2			4.3
37.5 17.5	30.07	763.8	61.7	16.5	6	1	5	16		2		2			4.4
37.5 22.5	30.02	762.5	62.7	17.1	4	1	7	16	1			1	1		4.4
37.5 27.5	29.98	761.5	63.2	17.3	2	4	5	14	2	1					5.0
37.5 32.5	29.92	760.0	62.8	17.1		4	8	16	5			1			5.3
37.5 37.5	29.84	757.9	61.0	16.1	1	5	6	16	1	2					5.5
37.5 42.5	29.79	756.7	58.8	14.9	1	7	8	14	2					1	5.7
37.5 47.5	29.76	755.9	56.7	13.7	1	8	8	11				1			5.8
37.5 52.5	29.75	755.6	55.3	12.9	2	10	8	9	1	1	1				5.9
37.5 57.5	29.74	755.4	54.2	12.3	3	11	7	7	2						6.0
37.5 62.5	29.82	757.4	52.2	11.2	6	10	4	6	3						5.9
37.5 67.5	29.90	759.4	50.6	10.3	5	11	5	5	2	2		3			5.9
37.5 72.5	29.95	760.7	45.3	7.4	4	10	3	5	2	1	1	1			6.0
42.5 12.5	29.97	761.2	58.1	14.5		3	8	16	1			3	2		5.1
42.5 17.5	29.91	759.7	58.6	14.8	1	3	9	15	1			3			4.7
42.5 22.5	29.85	758.2	59.5	15.3		2	8	16	4			1	1		4.8
42.5 27.5	29.76	755.9	59.9	15.5		1	7	17	6				1		5.2
42.5 32.5	29.69	754.1	59.0	15.0		3	11	15	1						5.8
42.5 37.5	29.63	752.6	56.8	13.8	3	3	10	12	3					1	5.5
42.5 42.5	29.59	751.6	52.9	11.6	3	7	9	5	6						6.0
42.5 47.5	29.60	751.8	46.2	7.9	6	6	6	5	4	1	2	1		1	3.9
42.5 52.5	29.62	752.3	42.8	6.0	5	5	6	6	2	2	2	2	1		5.6
42.5 57.5	29.64	752.8	41.7	5.4	6	9	4	3		3	2	4			5.8
42.5 62.5	29.77	756.1	37.7	3.2	8	8	3	3	2	2	1	4			5.6
42.5 67.5	29.85	758.2	32.6	0.3	9	7	6	2	2	3	2				5.4
47.5 12.5	29.82	757.4	53.7	12.1		3	4	12	6	6					5.0
47.5 17.5	29.75	755.6	54.2	12.3	3	4	3	12	5	2	2				5.1
47.5 22.5	29.65	753.1	54.6	12.6	2	3	3	9	9	3	1	1			5.4
47.5 27.5	29.54	750.3	54.4	12.4	1	2	7	6	9	4	2				5.3
47.5 32.5	29.47	748.5	53.4	11.9	2	4	6	7	6	2	3	1			5.5
47.5 37.5	29.45	748.0	51.8	11.0	4	5	6	5	3	4	1	3			5.7
47.5 42.5	29.47	748.5	45.1	7.3	6	5	5	6	3	1	1	3		1	6.1
47.5 47.5	29.50	749.3	38.5	3.6	4	6	7	4	2	5		3			5.8
52.5 12.5	29.75	755.6	47.1	8.4	1	2	2	5	7	10	1	3			5.4
52.5 17.5	29.66	753.4	48.4	9.1		4	4	3	9	7	1	3			5.5
52.5 22.5	29.59	751.6	48.5	9.2		5	4	1	9	11	1				5.4
52.5 27.5	29.52	749.8	47.5	8.6		4	4	3	8	8	3			1	5.3
52.5 32.5	29.46	748.3	47.2	8.4	3	2	3	4	4	7	3	1		4	5.3
52.5 37.5	29.48	748.8	45.1	7.3	3	4	1	3		6	3	3		8	5.8
52.5 42.5															5.8
52.5 47.5															
57.5 12.5	29.78	756.4	46.5	8.1		4	3	3	11	6	1	2	1		5.0
57.5 17.5	29.71	754.6	43.0	6.1		5		2	8	10	3	2		1	5.2
57.5 22.5	29.63	752.6	42.4	5.8	1	5		3	4	13	5				5.3
57.5 27.5	29.60	751.8	41.0	5.0	1	4	1	2	3	13	4			3	5.5
57.5 32.5	29.58	751.3	40.5	4.7		3		1		11	2	2		12	6.0
57.5 37.5															
57.5 42.5															
57.5 47.5															

REVIEW.

INTERNATIONAL METEOROLOGY FOR MARCH, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of March, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Reports from European and Asiatic Russia have not been received, and data from the territory covered by these reports are necessarily omitted from this issue. The observations will, however, be published in the number of this publication following their receipt.

The area of lowest mean pressure is central over the north Atlantic Ocean, in about N. 50°, W. 40°, and exhibits barometric minima ranging below 29.50 (749.3). A second area of low mean pressure, bounded by the isobar of 29.70 (754.4), is charted over the southern portion of British India, with recorded barometric minimum, 29.66 (753.4), at Bellary. At Gjæsvær, Norway, the mean pressure is recorded, 29.69 (754.1); from thence southward to Haparanda, Sweden, the gradient is 0.22 of an inch. Over the north Pacific Ocean, and portions of Alaska and the Aleutian Islands, an area of low mean pressure includes means ranging below 29.80 (756.9), the minimum, 29.72 (754.9), being shown at Sitka, Over the Sea of Okhotsk and the west portion of Behring Sea, and off the west coast of Africa south of the twentieth parallel, the mean pressure ranges below 29.90 (759.4).

Two areas of high mean pressure, including means ranging above 30.20 (767.1), appear, one being located over Europe, with maximum mean reading 30.22 (767.6) at Memel, Germany, and the other over the Yellow Sea and Corea, Asia, with recorded mean 30.24 (768.1) on the west coast of Corea. The pressure line of 30.20 (767.1) in this locality doubtless forms the southeast boundary of an area of high mean pressure extending over central Asia. Two areas of high mean pressure, showing values ranging above 30.10 (764.5), are charted, one over the north Atlantic Ocean, extending from the northwest coast of Africa southwestward, with barometric maximum, 30.14 (765.5), in about N. 32°, W. 17°, and the other over the northern and central Rocky Mountain districts in the United States, with means ranging to 30.15 (765.8) at Montrose, Colorado.

In the United States and Canada the barometric means range from 29.73 (755.1) at Sydney, Nova Scotia, to 30.15 (765.8) at Montrose, Colorado. At Saint John's, Newfoundland, the mean pressure is recorded, 29.58 (751.3), while on the Pacific coast of North America it ranges from 29.72 (754.9) in Alaska to 30.00 (762.0) along the California coast. Over the north Atlantic Ocean a barometric gradient of 0.67 of an inch is shown between N. 47°, W. 42° and N. 32°, W. 17°. Over that portion of Europe from which reports have been received, a barometric gradient of 0.53 of an inch appears between Gjæsvær, Norway, and Memel, Germany. Over the Mediterranean Sea the mean pressure averages about 30.00 (762.0). Over British India the barometric gradient is 0.14 of an inch between Bellary and the northern portion of the peninsula. Off the eastern coast of Asia the mean barometer ranges from 29.88 (758.9) at Behring's Island to 30.24 (768.1) over the Yellow Sea.

Compared with the chart for the preceding month (February, 1886), the following changes in mean pressure are shown: In the United States a decrease is shown, except in Los Angeles and San Diego, California; at the former place no change has occurred, and at the latter the mean pressure is 0.02 of an inch higher than for February. Over the greater part of the country the decrease exceeds 0.10, and over the central and southern Rocky Mountain districts it amounts to 0.20 of an inch. In Canada the mean pressure has decreased about 0.10 of an inch over the Maritime Provinces, except over Newfoundland, where it exceeds 0.20 of an inch. Over the Lake region the mean pressure is about 0.05 of an inch lower than in February, while west of the ninetieth meridian the decrease averages about 0.10 of an inch. Over the north Atlantic Ocean the area of low pressure, central during February over Iceland, has moved southwest, with a decrease in barometric minimum of about 0.24 of an inch. The area of high mean pressure, which extended southwest over the ocean from central Europe, has contracted largely in area and shifted its position to the southward of the Azores.

Over that portion of Europe from which reports have been received the following changes in mean pressure are shown: Over Scandinavia and the British Isles there has been a decrease of about 0.20 of an inch; over west and southwest portions of the continent the mean pressure gradually diminishes to Spain, where it remains about the same as during February. Over British India there has been a decrease of about 0.10 of an inch; over the Japanese Islands the mean pressure is somewhat lower over the southern portion, and about 0.10 of an inch higher over Yesso and northern Hondo. At Behring's Island the mean pressure is the same as for February.

Compared with the corresponding month of previous years the mean pressure over the United States was below the normal, except in portions of South Carolina, California, and Arizona, where it was about normal. The departures were remarkably even, and while they nowhere exceeded .08, they were above .04 of an inch over the greater part of the country. Over Canada the mean pressure was everywhere below the normal, the defect being greatest in the Maritime Provinces where it ranged to .17 of an inch. Over the British Isles the mean pressure averaged somewhat below the normal, the deficit being greatest over the west of Ireland; over portions of England the mean pressure was above the normal. Over the continent of Europe, within the region of observation, the mean pressure was everywhere above normal by amounts ranging from 0.07 of an inch over Italy to 0.19 of an inch over Sweden. Over British India the mean pressure averaged 0.01 of an inch above normal. At Tokei, Japan, the mean pressure was 0.07 of an inch above the normal.

In the United States the mean temperature for the month was below the normal on the Pacific coast, in the Rocky Mountain districts, Missouri Valley, and in the Southern States; it was above the normal in the extreme northwest and in the upper lake region. The regions of maximum departure from the normal were the middle and southern plateau districts and the extreme northwest, the temperature averaging 3°.1 above the normal in the last-named district, and about 5° below the normal in the plateau districts. In Canada the mean temperature was above the normal, except along the lower Saint Lawrence valley. The excess above the normal was greatest in north Ontario; at Victoria, B. C., the mean temperature was slightly below the normal. In the British Isles the mean temperature averaged 2° to 3° below the normal. Over the continent of Europe the mean temperature was everywhere below the normal, except in Sweden where it averaged 2°.5 (Fahr.) above. In British India the mean temperature was slightly below the normal, while at Tokei, Japan, it was about 2° above the normal for eight years.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Bellary, India	95.3	35.2	Fort Saint Michael's, Alaska	3.7	—15.7
San Salvador, Africa	82.8	28.2	Minnedosa, N. W. Territory	5.6	—14.7
Mauritius, Indian Ocean	82.4	28.0	Fort Garry, Manitoba	8.0	—13.3
Freetown, Sierra Leone	82.4	28.0	Fort Bridger, Wyoming	19.0	— 7.2
Springbok, Cape Colony	81.8	27.7			

The following table shows the mean pressure and mean temperature for March, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last

nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Mar. mean of 9 (1877–'85) years.	Mar., 1886.	Departure.	Mar. mean of 9 (1877–'85) years.	Mar., 1886.	Departure.
				°	°	°
Austro-Hungary	29.95	30.08	+ 0.13	44.9	39.9	— 5.0
British Isles	29.98	29.94	— 0.04	45.6	42.7	— 2.9
Denmark	29.91	30 08	+ 0.17	36.9	32.3	— 4.6
France	30.01	30.01	normal.	52.0	49.9	— 2.1
Germany	29.99	30.08	+ 0.09	42.0	38.8	— 3.2
India*	29.76	29.77	+ 0.01	84.6	84.3	— 0.3
Italy	29.94	30.01	+ 0.07	55.0	51.7	— 3.3
Japan		30.07			41.7	
Norway	29.80	29.95	+ 0.15	35.3	34.7	— 0.6
Russia†						
Spain	30.02	30.02	normal.	57.2	56.4	— 0.8
Sweden	29.84	30.03	+ 0.19	30.8	34.3	+ 2.5

* Means for eight years only. † Reports missing.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of March, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Mar. mean of 9 (1877–85) years.	Mar., 1886.	Departure.	Mar. mean of 9 (1877–85) years.	Mar., 1886.	Departure.
				°	°	°
Astrakhan, Russia						
Archangel, Russia						
Athens, Greece	29.96	29.94	— 0.02	59.1	56.1	— 3.0
Beirut, Turkey in Asia	29.94	29.91	— 0.03	64.3	62.8	— 1.5
Barnaul, Siberia, Asia						
Bridgetown, Barbadoes	29.94	29.92	— 0.02	81.0	84.3	+ 3.3
Ekaterinburg, Russia						
Freetown, Sierra Leone*	29.81	29.86	+ 0.05	81.3	82.4	+ 1.1
Funchal, Madeira Islands	30.09	30.13	+ 0.04	63.1	63.9	+ 0.8
Gibraltar †	30.02	30.21	+ 0.10	61.2	59.5	— 1.7
Havana, Cuba, W. I.	30.02	29.99	— 0.03	71.5	69.3	— 2.2
Malta, Mediterranean Sea	29.92	29.96	+ 0.04	61.0	57.1	— 3.0
Melbourne, New South Wales	30.04	30.07	+ 0.03	62.0	59.3	— 2.7
Mauritius, Indian Ocean	29.88	29.84	— 0.04	80.9	82.4	+ 1.5
Mexico, Mexico †		30.06		50.2	52.5	+ 2.3
Nassau, Bahamas, W. I.*	30.06	30.04	— 0.02	72.7	72.6	— 0.1
Nikolaevsk, on the Amoor, Asia						
Paramaribo, D. Guiana, S. A						
Swanbister, Orkneys	29.84	29.94	+ 0.10	40.4	40.2	— 0.2
San Juan de Puerto Rico, W. I.*	30.01	30.00	— 0.01	75.4	75.7	+ 0.3
Stykkisholm, Iceland	29.70	29.74	+ 0.04	26.5	30.0	+ 3.5
Tashkend, Toorkistan, Asia						
Thorshavn, Färöe Islands	29.79	29.84	+ 0.05	39.1	40.3	+ 1.2
Tiflis, Russia						
Tokio, Japan*	30.01	30.08	+ 0.07	42.0	43.9	+ 1.9
Yeniseisk, Siberia, Asia						
Zi-Ka-Wei, China	30.19	30.14	— 0.05	44.3	45.3	+ 1.0

* Means for eight years only. † Means for seven years only.
Reports from Russian stations missing.

In the United States the prevailing winds were northwesterly in the upper Mississippi and Missouri valleys, and on the Atlantic coast north of the thirty-fifth parallel; in the lower lake region, Ohio Valley, south Atlantic and east Gulf states they were from southwest to northwest; in the middle and southern Rocky Mountain districts they were variable; elsewhere they were generally westerly. In Canada the prevailing winds were northerly in the Maritime Provinces; in the Lake region and west of the ninetieth meridian they were variable. Over the north Atlantic Ocean the wind-directions were governed by the area of low pressure central northeast of the Banks of Newfoundland and the high barometer area located south of the Azores. Over the British Isles and Scandinavia the winds were mostly southerly; over west-central Europe and Italy they were variable, while in Spain and Portugal they were mostly south to west. Over British India the winds were generally from west to north. Over the Japanese Islands south to west winds prevailed north of the thirty-seventh parallel, while over southern Hondo and Kiu-Siu they were variable. At Behring's Island the prevailing direction was north. Over the eastern portion of Behring Sea the winds were variable.

In the United States the precipitation was largely in excess of the average for the month in Florida, the east Gulf states, and eastern Tennessee; quite a marked deficiency occurred in the lower Ohio valley, western Tennessee, and in portions of the central Mississippi valley. In other districts the departures from the normal precipitation were slight. In Canada the precipitation differed considerably from the average, except in Quebec, an excess having fallen in Ontario, and a deficit of almost corresponding amount occurring in the Maritime Provinces. In the British Isles there was about the average amount of precipitation, except at several of the western stations, where the total fall was greatly in excess of the average for the month.

In the United States the noteworthy meteorological features of the month were the general deficiency in the mean atmospheric pressure and the very heavy rains during the closing days of the month in the Southern States. In Canada the month was characterized by the marked absence of stormy weather, the low pressure which everywhere existed, and also for the small amount of snow in nearly all portions of the country. Over the north Atlantic Ocean the most noteworthy feature of the month was the remarkable continuation of low pressures, barometer readings below 29.00 (736.6) being reported on thirteen days. Over the British Isles the weather was cold and wintry, with occasional heavy falls of snow and sharp frost during the first half of the month, while during the last half the weather was generally mild and spring-like; the mean results of the two periods, taken as a whole, showing small departures from the normals of the several conditions.

TRACKS OF AREAS OF LOW PRESSURE FOR MARCH, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during March, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-three areas of low pressure are shown, of which fourteen are traced over the North American continent; seven over the north Atlantic Ocean; five over Europe and adjacent waters; and seven off the eastern coast of Asia, over the Japanese Islands, the north Pacific Ocean, and Behring Sea. The average number of areas of low pressure traced over the North American continent for the month of March during the last twelve years is 12, or 2 less than the number traced for March, 1886.

Of the low areas charted, nine originated in the Rocky Mountain regions or on the Pacific coast, and nine passed as far east as the Atlantic coast. The general direction of movement was slightly to the south of east while the low areas were west of the ninetieth meridian, and it was slightly to the north of east after passing to the east of this meridian. Four areas of low pressure passed eastward north of the United States; four first became clearly defined as storm-centres on the eastern or middle slope of the Rocky Mountains, and two developed in the lower Rio Grande valley.

These storms are described in detail in the MONTHLY WEATHER REVIEW for March, 1886, under the heading "Areas of low pressure."

Of the seven depressions traced over the north Atlantic Ocean, five were continuations of storms which first appeared over the North American continent; one moved northwest from the vicinity of the Azores and first appeared as an area of low pressure over the Banks of Newfoundland whence it passed east and circled north. The general course of direction of the depressions was easterly west of the fortieth meridian and northeast after passing to the eastward of this meridian.

The following are brief descriptions of the more important storms which appeared over the north Atlantic Ocean during the month.

From the 1st to the 7th, inclusive, depression number XV was central over, or in the vicinity of, the Banks of Newfound-

land, with central pressure ranging below 28.80 (731.5) on the 3d. From the 3d to the 7th there was a gradual increase in pressure within the storm-area. By the 8th the centre of depression had moved east to N. 49°, W. 33°, in which position exceptional energy and barometric pressure below 28.60 (726.4) were shown. By noon, Greenwich mean time, of the 9th the storm had moved north to the fifty-fourth parallel, with an appreciable increase in central pressure, after which it moved northward beyond the region of observation. Depression number xvi first appeared on the 3d to the northward of the Azores, with pressure ranging below 29.20 (741.7), whence it moved slowly northwest to N. 48°, W. 34° by the 4th, with slight changes in pressure, and from thence apparently circled westward and united with depression number xv. Depression number xvii was a continuation of land depression number iii which passed off the coast in about N. 42° during the early morning of the 9th. By the 10th the storm had advanced to the southward of the Banks of Newfoundland, with central pressure about 29.50 (749.3), whence it moved rapidly northeast to N. 52°, W. 32° by the 11th, after which it apparently filled up. Depression number xviii was a continuation of land depression number iv which passed eastward over northern Florida during the 9th. By the 10th the storm had moved north of east to N. 32°, W. 74°, whence it passed to N. 37°, W. 60° by the 11th, with a marked increase in energy and central pressure below 29.40 (746.7). Moving northeast the depression was central at noon, Greenwich mean time, of the 14th off the west coast of Ireland, whence it is continued as a European land depression. In its passage over the ocean the storm exhibited diminishing energy, but was accompanied by severe weather throughout.

Depression number xix was a continuation of land depression number viii which moved northeast along the coast of the United States to the forty-second parallel during the 13th. By the 14th the depression had advanced over the ocean to N. 44°, W. 57°, with central pressure below 28.80 (731.5), whence it moved slowly in a generally north of east direction to N. 51°, W. 25° by the 19th, after which it disappeared. The depression had increasing pressure from the 14th to the 17th, but during the 17th and 18th exhibited great strength, with barometer reading below 28.80 (731.5). Depression number xx was a continuation of land depression number ix which passed eastward from the coast in about N. 43° on the 16th. By the 17th the storm had moved southeast to N. 38°, W. 58°, without evidence of marked energy, whence it circled slowly northeast to the south of Iceland by the 27th, where it united with depression number xxi which had passed northeastward over the Gulf of Saint Lawrence, the northern extremity of Newfoundland, and the ocean from the 23d to the 27th. Depression number xx had pressure ranging below 28.80 (731.5) from the 18th to the 20th, inclusive, after which there was an appreciable loss of force. On the 23d depression number xxi, a continuation of land depression number xii traced from the Pacific coast, was central over the Gulf of Saint Lawrence, with central pressure below 29.00 (736.6), after which date its course was too far to the northward of the region of observation to admit of accurately describing its character.

Of the five depressions traced over Europe, one was a continuation of a storm which first traversed the north Atlantic Ocean; one appeared over the ocean north of Scandinavia; one passed eastward over southern Portugal and Spain and is traced over the Mediterranean Sea and Italy, and two first appeared over the ocean south of the British Isles. An area of low pressure was central from the 29th to the 31st, inclusive, off the northwest coast of Norway. The general course of direction of the depressions was easterly. On account of the absence of reports from the Russian system of stations the storm-tracks are necessarily limited to the western half of Europe.

Depression number xxii appeared south of the British Isles on the 1st, with central pressure ranging below 29.60 (751.8). By the 2d the storm-centre had moved northeast over England, with pressure about two-tenths of an inch lower than on the preceding date; from this position it moved north of east over the North Sea into northern Germany by the 3d, where barometric pressure ranging below 29.10 (739.1) was shown. Thence passing northeast over the Baltic Sea the depression is traced to the Gulf of Finland by the 4th, after which it advanced northeast beyond the region of observation. Depression number xxiii was central on the 2d off the north coast of Norway, with pressure below 29.00 (736.6), after which date it disappeared. Depression number xxiv first appeared over northern France on the 5th whence it had apparently advanced from the westward. From this position it is traced southeast to the eastern portion of the Mediterranean Sea by the 11th. The depression exhibited marked energy until the 8th, after which date it commenced to fill up. Depression number xxv is first charted over the ocean southwest of Portugal under date of the 11th, whence it moved eastward to the fifth meridian, east, by the 13th. On the 14th the centre of depression was central over the Mediterranean Sea, in N. 40°, E. 5°. From this position the depression passed east to the west coast of Italy, and thence advanced northeast and united with depression number xxvi over the northern portion of the Adriatic Sea on the 16th. The storm exhibited fair energy throughout its course, but had a marked increase in barometric pressure after the 14th. Depression number xxvi was a continuation of ocean storm number xviii which entered the French coast from the northwest during the afternoon of the 15th, with pressure below 29.80 (756.9); passing rapidly east-southeast the storm was central on the 16th over the northern portion of the Adriatic Sea, with central pressure about 29.65 (753.1), from thence passing southeast and disappearing. Subsequent to the 16th no important depressions appeared over Europe within the region of reports.

Of the seven depressions which are traced off the eastern coast of Asia, over the Japanese Islands, the north Pacific Ocean, and Behring Sea, four first appeared over, or in the vicinity of, the Japanese Islands; one is traced eastward from Kamchatka, and two apparently originated in the vicinity, and to the southward of, the Aleutian Islands. The general course of direction of the depressions was northeast.

Depression number xxvii appeared as an area of low pressure which remained nearly stationary over the Aleutian Islands from the 1st to the 5th, inclusive. During this period the depression was relatively shallow. By the 6th the storm-centre had moved northeast over the Alaska peninsula; from thence passing over the north Pacific Ocean, it apparently dissipated off the coast of Alaska after the 8th. Depression number xxviii was a storm of considerable energy which passed to the north coast of Yesso from the Sea of Japan by the 9th, whence it moved east-northeast over Kamchatka and Behring Sea, and thence advanced eastward over the Alaska peninsula and the north Pacific Ocean to the American coast in about N. 57° by the 14th. From this locality the depression is given a probable track, uniting with land-depression number x. The depression had considerable depth throughout and was accompanied by disturbances of pronounced strength. Depression number xxix first appeared south of the Aleutian Islands on the 9th, with central pressure below 28.80 (731.5); moving northeast to N. 57°, W. 150° by the 11th, the depression is given a probable southeast track to the American coast in about N. 51° by the 12th, after which date it disappeared. The depression commenced to fill up after the 9th, and possessed slight energy after the 11th.

Depression number xxx is first charted off the east coast of Hondo under date of the 13th, whence it is given a probable northeast track over the ocean and Behring Sea to the coast of Alaska in N. 65° by the 17th; thence moving southeast over Alaska and the ocean to the American coast in N. 55° by the 19th, where it remained nearly stationary as an area of low pressure until the 23d. This depression, while apparently possessing considerable energy, was too far distant from stations of observations during a greater portion of its course, to

admit of accurately locating its centre from day to day. Depression number xxxi advanced from the Sea of Japan to the north coast of Yesso by the 19th, whence it moved slowly northeast over the Kooril Islands during the 20th and 21st, after which it disappeared beyond the region of observation. The depression had barometric pressure below 29.40 (746.7) on the 19th, after which it commenced to fill up. Depression number xxxii appeared over the Sea of Japan on the 23d, with pressure ranging below 29.60 (751.8); from this position the centre of depression passed northeast to the east coast of Yesso by the 24th, whence it moved northward beyond the region of observation. Depression number xxxiii apparently originated over the Sea of Okhotsk and passed to the eastward of Behring's Island by the 29th, with central pressure below 29.20 (741.7). By the 30th the centre of depression had moved eastward to the vicinity of the Alaska peninsula, with pressure about two-tenths of an inch higher than on the preceding date. Circling northward the depression was central on the 31st over Alaska, in about N. 62°, W. 160°, with central pressure about 29.50 (749.3).

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
Chief Signal Officer.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

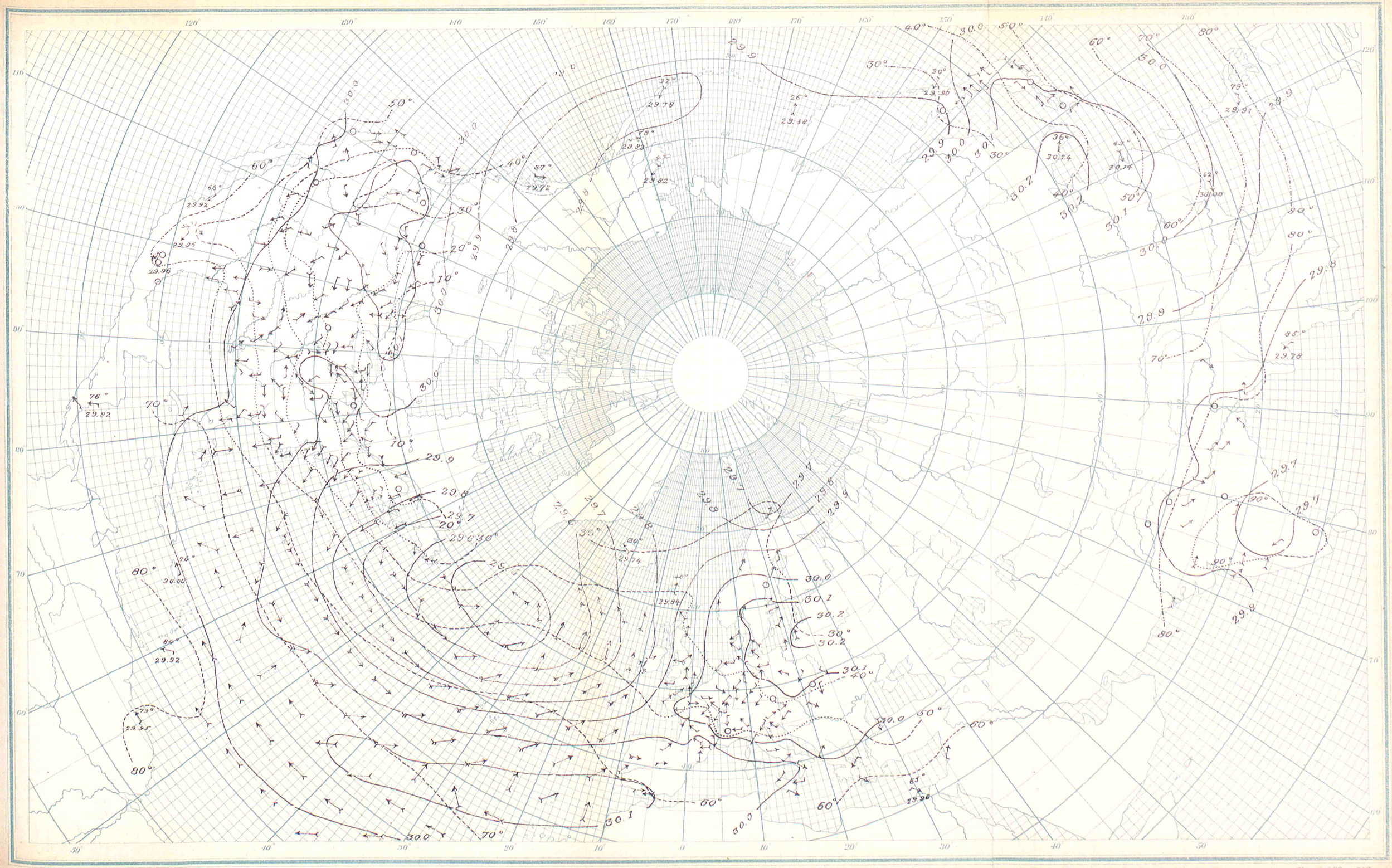
NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

SOUTH PACIFIC COAST: California.

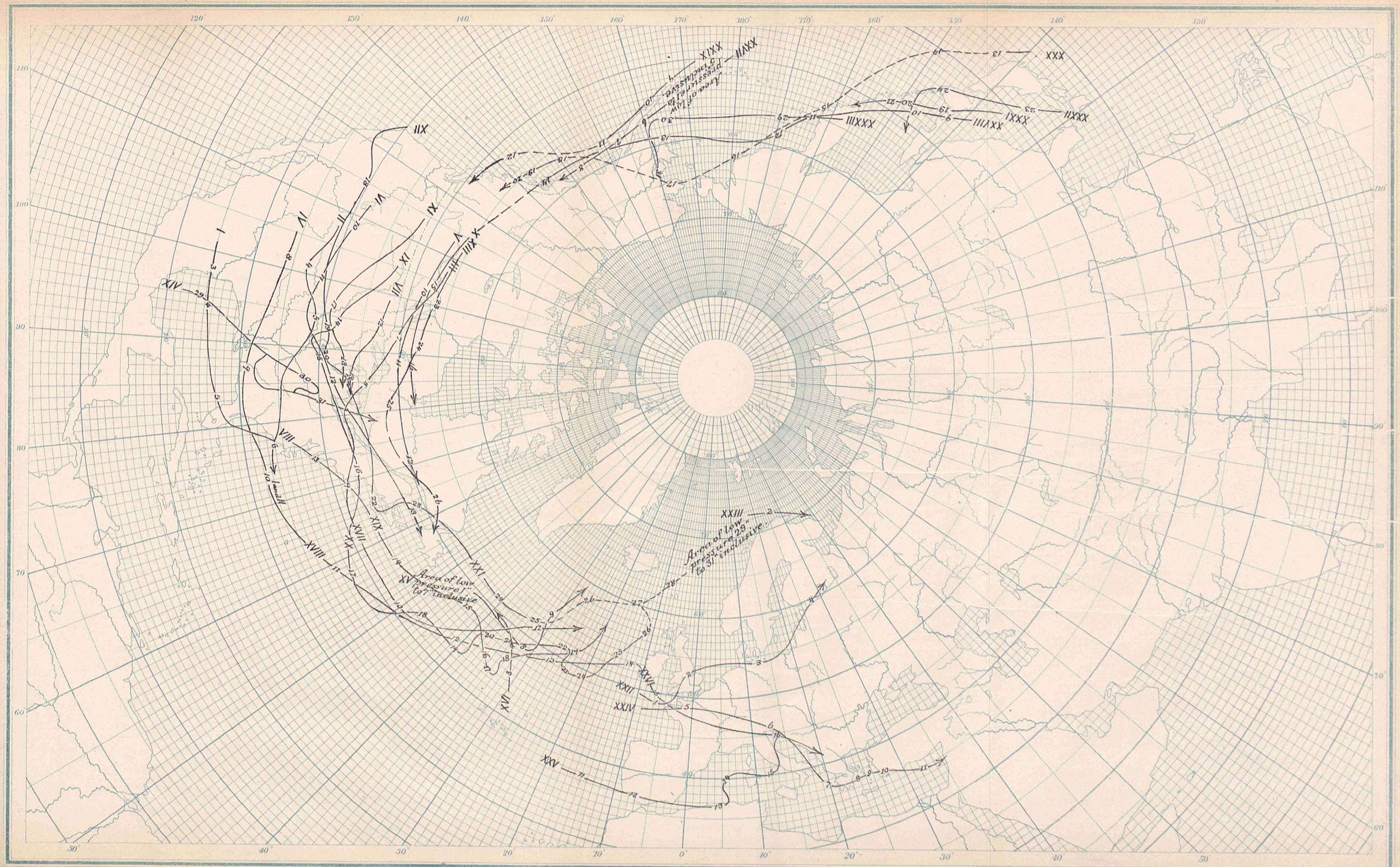
OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

International Chart II. March, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. March, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March, 1886—Continued.

Name of vessel.	Captain.
WILSON LINE.	
Br. s. s. Bassano	Capt. W. Rea.
Buffalo	J. H. Malet.
Chicago	J. W. Jones.
Galileo	Richard Potter.
Lepanto	Wm. Abbott.
Otranto	Wm. Rippeth.
Salerno	B. H. Rogers.
Sorrento	J. T. Rogers, RNR.
WATTS, WARD LINE.	
Br. s. s. Richmond	J. Garsen
Camden	S. R. Chandler.
MISCELLANEOUS.	
Br. s. s. Aboraca	John Temple.
Athens	Ch. Off. Eml. Towns.
Bedford	Capt. T. Aikenhead.
Nor. Bratsburg	H. Neilsen.
Ger. Brutus	J. A. Voege.
Br. Chigwell	W. Masters.
Chiswick	E. Leighton.
Craighill	W. H. Bennett.
Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	Jos. Scholtz.
Elstow	T. Robertson.
Span. Emiliano	D. F. de Bengoa.
Br. Gedmandale	B. W. Hick.
Glenfalloch	R. Webster.
Span. Hugo	A. de Mugica.
Br. Lord Lansdowne	C. H. Baskfill.
Am. Lorenzo D. Baker	W. F. Wiley.
Br. Madrid	M. Garson.
Matthew Bedlington	Thos. Kirby.
Peconic	John Jenkins.
Piqua	J. H. Prouse.
Prydain	Moses Perry.
Ger. Raiatea	J. Viereck.
Br. Rydal Water	H. Callahan, Mate.
Sacrobosco	R. S. Thompson.
Stag	James Adams.
Sulina	Thos. Potter.
Sussex	J. P. O'Callaghan.
Vindolana	Thos. Harrison.
Vertumnus	C. E. Cook.
Viola	L. Murray.
N. Y. HERALD WEATHER SERVICE.	
Br. s. s. Abyssinia	Jas. Price.
Am. Acapulco	W. G. Shackford.
Br. Adriatic	H. Parsell
Alaska	G. S. Murray.
Alpin	J. G. Perry.
Aurania	W. H. P. Hains
Alvo	D. Williams.
Arizona	Sam. Brooks.
Baltic	G. Burton.
Belg. Belgenland	W. A. Beynon.
Br. Britanic	H. Perry.
Am. Chalmette	Robert B. Quick.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Berlin	F. S. Land.
City of Chester	H. Condron.
City of Chicago	Fred. Watkins.
City of Montreal	A. Redford.
Am. City of Puebla	John Deakin.
Br. City of Richmond	Authur Lewis.
Celtic	Benj. Gleadell.
Am. Colon	Chas. Lima.
Br. Craighill	W. H. Bennett.
Ger. Donau	C. Phole.
Br. Etruria	T. Cook.
Ger. Ems	W. Willigerod.
Ger. Lessing	B. Voss.
Belg. Nederland	A. J. Griffin.
Br. Nevada	J. Douglass.
Am. Newport	W. G. Shackford.
Belg. Noordland	N. E. Nickils.
Br. Olympia	James Brown.
Dtch. P. Caland	F. H. Bonjer.
Belg. Pennland	R. Weyer.
Br. Republic	P. J. Irving.

Name of vessel.	Captain.
HERALD WEATHER SERVICE—Con.	
Br. Richmond Hill	Capt. A. Hyde.
Belg. Rhynland	J. C. Jamison.
Dtch. Schiedam	G. Bakker.
Br. Servia	A. McKay.
Fr. St. Laurent	M. de Jousselin.
Br. The Queen	J. Milligan.
Dtch. W. A. Scholten	G. J. Vis.
Belg. Waesland	J. Ueberweg.
Br. Wisconsin	E. Bentley.
Belg. Westernland	Com. W. G. Randle.
SAILING VESSELS.	
Br. bk. Abyssinian	Capt. John Hughes.
Am. bg. Abbie Clifford	D. W. Storer.
Br. bg. Achsah	A. M. Shaw.
Nor. sp. Ariel	Fr. Schwings.
Br. bk. Ada Peard	N. Hocken.
It. Agostino Rombo	V. Basso.
Am. schr. Annie R. Lewis	L. L. Lewis.
bg. Arcot	J. W. Cates.
Nor. bk. Artemis	E. E. Moe.
Ger. Athena	A. Witte.
Ger. bk. Betty	S. Wohlmuth.
Br. sp. British Isles	G. Southcott.
Br. bk. British Princess	F. W. Peterson.
Ger. sp. Caroline	Fr. Schluter.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
Br. bk. Childwall	T. O. Watson.
Br. sp. City Camp	D. McLeod.
Ger. bkt. Columbus	B. Sauermilch.
Br. sp. Earl of Shaftsbury	W. Randall.
E. J. Spicer	Dewis Spicer.
Am. schr. Emily Shepard	E Coggins.
Edward R. Emerson	A. H. Child.
Am. bg. Ernestine	E. R. Norton.
bk. Essex	G. W. Hall.
Br. schr. Etta A. Watt	G. T. Lecompte.
Am. schr. Ettie H. Lister	Smith D. Mason.
Br. bk. Exile	G. J. Pearce.
Am. schr. Florence Rogers	J. S. F. McLeod.
bk. Fluorine	Wm. Munson.
Ger. sp. Georg	G. A. Scholtz.
Am. bk. Harriet S. Jackson	W. T Bacon.
Br. bk Harvester	W. Cassidy.
Am. Havana	B. F. Rice.
Ger. sp. Hedwig	Th. Minssen.
Dtch. bk. Helena	T. T. Verbeet.
Am. Harvard	Samuel Pray.
sp. Henry Villard	F. B. Perkins.
Am. schr. Henry Waddington	W H. Magee.
Ger. bk. Ida	C. Fessenfeldt.
Br. bk. Iodine	Adam Smith.
Am. schr. John J. Hanson	L. J. Stevens.
Ger. sp. J. W. Gildemeister	A. Lehman.
Joseph Souther	J. W. Watts.
Br. bk. Kryolith	W. C. Stephen.
Lalla	Paul Le Blanc.
Am. bg. L. & W. Armstrong	A. Alexander.
Nor. bk. Lovspring	G. Thomsen.
Ger. bk. Leocadia	John Stohff.
Br. bg. Lillan	H. F. Schive.
Br. bkt. Lydia	Geo. Lowery.
sp. Mabel Taylor	C. E. Durkee.
Am. sp. Mary L. Stone	G. L. Josselyn.
Magellan	E. S. Manson.
Am. schr. Maggie Abbott	D. C. McIntosh.
Am. bg. Mary Fink	D. B. Darrah.
sp. Mary L. Cushing	C. Downs.
Br. sp. Morna	J. H. Goodwin.
Am. schr. Nellie Coleman	Geo. Hodgkins.
Am. bkt. Nellie M. Slade	J. A. Gould.
Am. schr. Nelson Bartlett	S. Watts.
Ger. sp. Palme	W. Bahls.
Am. bk. Ralph M. Hayward	J. Baxter.
Br. bk. Recovery	T. E Blagdon.
Dan. bk Rialto	N. P. Hansen.
Ger. bk. Richard	A. von Seggern.
Br. bkt. Rosebud	John Collie.
Br. bk. Sarah Doe	B. S. Merryman.
Am. schr. Sarah D. J. Rawson	Thos. D. French.
Am. bk. Sarah	L. R. Hale.
Br. sp. Sapphire	G. W. Murray.
Ger. sp. Shakspere	Carl Muller.
Br. Stephen D. Horton	J. Spicer.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Am. sp. St. John	Capt. O. H. Fales.
Am. bk. Samuel E. Spring	B. W. Proctor, Mate
Am. bg. Teneriffe	N. S. Tracy.
Nor. bk. Tros	S. Brager.
Br. bk. Tuck Sing	Geo N. Ryder.
Am. Tillie Baker	J. H. Carty.
Aust. sp. The Lord Warden	J. N. Ossoinack.
Ger. sp. Union	H. Fokken.
It. bk. Vincenzo Accame	N. V. Lavagna.
Ger. bk. Western Chief	Fr. Sander.
Am. Xenia	N. E. Reynolds.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Enterprise	Albert S. Baker.
U. S. S. Galena	W. Chester.
U. S. S. Hartford	Charles M. Thomas
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	C. V. Gridley.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	F. J. Higginson.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	Com. B. F. Day.
U. S. S. Omaha	Capt. T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	Silas W. Terry.
U. S. S. Powhatan	L. A. Beardsly.
U. S. S. Quinnebang	Geo. W. Coffin.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	W. H. Whiting.
U. S. S. Shenandoah	Chas. S. Norton.
U. S. S. Swatara	E. T. Windham.
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Vandalia	H. L. Howison.
U. S. S. Yantic	F. M. Green.
BRITISH NAVAL.	
H. M. S. Audacious	R. H. Harris.
H. M. S. Active	Com. R. O. B. Fitzroy, C. B.
H. M. S. Agincourt	Chas. Scott, C. B.
H. M. S. Briton	Capt. R. M. Lloyd.
H. M. S. Bacchante	A. U. Moore.
H. M. S. Cleopatra	L. G. Keppel.
H. M. S. Champion	A. T. Powlett.
H. M. S Condor	W. C. H. Domville.
H. M. Dockyard, Bermuda	J. F. G. Grant.
H. M. S. Dreadnought	F. G. D. Bedford.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Himalaya	J. E. Stokes.
H. M. S. Heroine	F. R. Blackburn.
H. M. S. Minotaur	B. F. Clark.
H. M. S. Myrmidon	
H. M. S. Midge	E. Hocham.
H. M. S. Mariner	J. Durnford.
H. M. S. Nelson	A. P. Lake.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Rambler	
H. M. S. Rifleman	C. G. Prater.
H. M. S. Superb	H. F. Cleveland.
H. M. S. Sylvia	L. S. Dawson.
H. M. S. Satellite	A. H. Alington.
H. M. S. Sappho	W. F. Castle.
H. M. S. Torquoise	R. Woodward.
H. M. S. Temeraire	C. E. Domville.
SWEDISH NAVAL.	
H. S. M. S. Balder	G. E. Ulf.
DUTCH NAVAL.	
Bromo	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of March. 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	C. L. Wragge, C. M. G.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, *Queen's College*	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	Capt. R. Gardner Wharton.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cavé for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Calcutta	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
ITALIAN—*Continued.*	
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Cosenza	Prof. D. *Conti.*
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal.
Mazatlan	F. Weidner.
Mexico	The Staff.
Puebla	E. Cappellett.
Zacatecas	J. A. Bonilla, M. E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomers Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	H. H. Hildebrandeson.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lec Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Bluefields, Nicaragua, C. A	W. H. Jackson.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF APRIL, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JUNE, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Norwegian	R. Carruthers.
Prussian	Alex. McDougal.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. Burton.
British King	John Kelly.
British Prince	Samuel Nowell.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Acadia	John McKeague.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Furnessia	J. Hedderwick.
Italia	T. Craig.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Span. Alps	T. Anasagasti.
Br. Alvo	David Williams.
Alvena	O. Hughes.
Span. Andes	T. MacKnight.
BOOTH'S S. S. Co. (limited).	
Br. s s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
Chateau Yquem	J. le Chapelain.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gaeger.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Alésia	Dr. C. Ollive, Obs.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
St. Germain	—— Boyer.
Labrador	P. dé Hauterive.
Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
GUION LINE.	
Br. s. s. Arizona	Capt. S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Reessing.
Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con'd.	
Moravia	Capt. O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	E. Kopff.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Claymore	—— Gulland.
Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Bessel	Chas. J. Watson.
Dalton	J. Russell.
Belg. Hipparchus	W. Kelly.
Keppler	J. Dixon.
Br. Mozart	T. Sawyer.
Olbers	Jas Clark.
Teniers	J. McAuley.
Thales	J. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptian Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Persian Monarch	F. Paton.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Sumner
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Elbe	H. Richter.
Ems	W. Willigerod
Fulda	R. Ringk.
Habsburg	F. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Leipzig	C. Thalenhorst.
Main	H. Christoffers.
Rhein	C. Wiegand.
Werra	Richard Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R. N. R
Oceanic	J. Thomson.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	Capt K. S. Nickerson.
Chattahoochee	J. W. Catherine.
Juniata	S. L. Askins.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
PYMAN WATSON STEAMSHIP Co.	
Br. s. s. Netley Abbey	H. N. Vyvyan.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
Zaandam	A. Potjer.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Jan Breydell	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.

WAR DEPARTMENT.
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SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF APRIL, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JUNE, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, APRIL, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.99	761.7	30.12	765.0	59.4	15.2	66	3	1	.....	6	8	5	.....	1	6	5743	9239	4	1.42	36.1
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.80	756.9	29.97	761.2	52.3	11.3	86	5	7	4	5	5	.....	2	1	1	.....	.....	5	2.44	62.0
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.97	761.2	30.05	763.3	57.4	14.1	76	3	2	3	1	3	13	1	4	.....	.....	.....	6	1.63	41.4
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.40	746.8	29.94	760.5	61.5	16.4	54	1	2	2	4	2	5	7	7	.....	.....	.....	6	3.33	84.6
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.24	742.7	30.01	762.3	58.6	14 8	56	2	3	4	5	1	.....	8	7	.....	.....	.....	4	0.51	13.0
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.13	739.8	29.93	760.1	59.4	15.2	65	5	.....	.....	.....	15	.....	.....	.....	10	.....	.....	5	0.90	22.9
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.71	729.1	29.94	760.5	58.3	14.6	58	2	4	.....	7	5	5	5	2	.....	.....	.....	5	3.39	86.1
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.58	725.8	29.91	759.8	56.5	13.6	70	.....	1	6	3	.....	2	3	11	4	.....	.....	6	4.28	108.7
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.06	738.2	30.06	763.5	55.6	13.1	48	1	1	1	6	1	11	5	4	.....	.....	.....	4	0.78	19.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.84	757.9	29.95	760.8	60.8	16.0	68	.....	2	5	3	7	4	5	2	2	.....	.....	4	1.58	40.2
Szatmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.54	750.3	30.01	762.2	63.1	17.3	44	5	2	1	3	8	7	2	2	.....	.....	.....	4	1.01	25.7
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.68a	753.8a	29 96a	760.9a	62.1	16.7	53	1a	.....	2	2	9	12	.....	2	1	.....	.....	5a	1.74	44.2
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.89	759.1	29.98	761.6	60.1	15.6	58	1	4	4	4	.....	1	2	6	8	.....	.....	6	1.48	37.6
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.26	743.1	29.97	761.1	57.7	14.3	57	1	4	2	.....	.....	19	2	2	.....	.....	.....	4	2.41	61.1
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.84	758.0	30.00	762.0	73.8	23.2	80	3	15	1	1	.....	4	2	4	.....	.....	.....	6	8.80	223.5
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.78	756.4	29.91	759.7	45.3	7.4	66	3	3	2	5	4	2	5	6	.....	9854	15858	6	1.23	31.2
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.11	764.8	48.3	9.1	65	1	2	7	3	2	3	5	7	.....	.....	.....	6	.....	.....
Bradford a	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.49	749.0	29.91	759.7	46.9	8.3	69	5	3	3	5	1	3	3	6	.....	.....	.....	8	2.15	54.6
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.94	760.5	29.89	759.2	84.9	29.4	62	.....	.....	.....	.....	.....	7	1	22	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.76	755.9	29.97	761.2	50.7	10.4	73	.....	2	.....	7	3	2	5	1	10	.....	.....	8	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.73	755.1	29.94	760.5	48.5	9.2	74	6	4	2	5	3	1	7	2	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.63	701.8	29.94	760.5	76.5	24.7	54	1	2	.....	.....	.....	13	2	2	.....	.....	.....	5	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.77	756.1	81.4	27.4	92	9	.....	7	1	6	1	6	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.81	757.2	29.87	758.8	50.4	10.2	75	3	2	.....	11	3	3	1	7	.....	.....	.....	6	2.19	55.6
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.81	757.2	29.92	760.0	62.3	16.8	89	.....	9	4	.....	.....	1	12	4	.....	.....	.....	5	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.75	755.6	29.95	760.7	51.9	11.1	64	5	2	2	7	2	.....	6	6	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.63	752.6	29.93	760.2	50.6	10.3	82	2	4	3	5	2	1	3	10	.....	7295	11740	5	2.82	71.6
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.89	759.2	29.95	760.7	51.0	10.6	55	6	3	3	5	3	.....	5	5	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.64	752.8	29.92	760.0	50.5	10.3	63	1	1	3	10	.....	8	.....	12	.....	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.88	758.9	29.94	760.5	60.9	16.1	80	1	14	1	1	.....	10	.....	3	.....	.....	.....	3	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.95	760.7	29.95	760.7	73.2	22.9	74	3	1	.....	2	.....	2	8	14	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.69	754.1	29.94	760.5	50.9	10.5	70	4	1	3	6	4	1	.....	11	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.83	757.7	29.93	760.2	52.1	11.2	49	1	3	3	7	1	.....	8	6	1	.....	.....	7	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.76	755.9	29.88	758.9	45.5	7.5	73	4	2	4	6	4	5	3	2	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.95	760.7	30.00	762.0	57.7	14.3	59	11	.....	1	2	3	.....	.....	11	2	.....	.....	7	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.92	760.0	46.8	8.2	69	1	.....	8	3	4	.....	3	11	.....	.....	.....	8	3.62	91.9
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.86	758.4	29.91	759 7	51.1	10.6	71	4	4	3	5	2	6	2	4	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.61	752.1	29.98	761.5	63.0	17.2	65	4	5	3	2	4	7	3	2	.....	4897	7881	7	1.30	33.0
Penang	N. 5 24	E. 100 20	6.41 p.m.	20	6	29.84	757.9	29.78	756.4	80.7	27.1	83	1	13	.....	3	.....	10	.....	3	.....	.....	.....	2	5.04	128.0
Singapore	N. 1 17	E. 103 51	6.55 p.m.	10	3	29.86	758.4	29.79	756 7	77.9	25.5	92	.....	4	2	17	2	2	1	.....	2	.....	.....	4	5.71	145.0
Canadian.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	30.10	764.5	30.15	765.8	35.4	1.9	.....	2	2	2	1	5	.....	6	.....	11	.....	.....	6	1.25	31.8
Bird Rocks	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.93	760.2	30.06	763.5	30.8	— 0.7	88	6	6	5	6	.....	2	5	.....	.....	.....	.....	6	0.23	5.8
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	30.11	764.8	30.15	765.8	35.2	1.8	78	8	5	2	7	2	.....	1	2	3	.....	.....	6	1.21	30.7
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	30.07	763 8	30.13	765.3	32.7	0.4	61	5	4	4	7	2	1	1	6	.....	3754	6041	5	0.56	14.2
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	.....	.....	.....	.....	41.4	5.2	79	1	.....	10	.....	.....	.....	15	4	.....	.....	.....	5	2.41	61.2
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	30.08	764 0	30.14	765.5	33.0	0.6	.....	.....	.....	12	.....	.....	.....	2	1	13	.....	.....	4	0.10	2.5
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	30.09	764.3	30.13	765.3	32.5	0.3	83	3	6	3	10	1	.....	1	6	.....	.....	.....	5	0.30	7.6
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.15	740.4	30.05	763.3	33.3	0.7	89	7	3	1	4	4	7	4	.....	.....	10490	16882	6	1.73	43.9
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.97	761.2	30.17	766.3	37.1	2.8	67	6	8	2	3	2	.....	2	5	2	5340	8594	4	0.30	7.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	30.08	764.0	30.14	765.5	40.1	4.5	69	2	10	1	6	3	.....	.....	4	4	8138	13097	5	0.05	16.5
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28 96	735.6	30.11	764.8	40.2	4.6	93	1	1	2	3	3	2	4	2	12	3436	5530	5	2.99	76.2
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.99	761.7	30.13	765.3	38.6	3.7	79	5	3	10	2	1	2	.....	6	1	.....	.....	5	0.77	19.6
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.73	755.1	30.15	765.8	42.5	5.8	81	2	1	3	7	1	1	3	12	.....	.....	.....	6	4.49	114.2
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.77	756.1	30.29	769.4	39.2	4.0	84	1	.....	2	7	8	.....	1	11	.....	4102	6601	6	2.54	64.5
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.97	761.2	30.01	762.3	39.0	3.9	85	4	3	3	11	.....	.....	3	4	1	.....	.....	5	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.17	740.9	30.09	764.3	41.3	5.2	89	5	.....	1	1	5	1	.....	1	16	2803	4511	5	3.41	86.5
Medicine Hat a	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.59	700.8	29.88	758.9	40.9	4.9	79	1	1	3	1	4	2	1	4	12	.....	.....	3	0.80	20.3
Minnedosa	N. 50 13	W. 99 48	5.31 a.m.	1796	547	28.09	713.5	30.00	762.0	30.7	— 0.7	86	3	1	2	1	.....	3	6	5	3	.....	.....	5	2.18	53.3
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.93	760.2	30.14	765.5	39.0	3.9	73	8	1	1	9	3	1	.....	7	.....	.....	.....	4	0.79	20.1
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.89	759.2	30.14	765.6	37.8	3.2	84	2	7	2	3	.....	1	2	13	.....	3604	5800	5	1.75	44.4
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.40	746.7	30.12	765.0	36.2	2.3	52	3	.....	.....	3	.....	3	6	8	6	1	6474	10419	5	1.74	44.2
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.37	746.0	30.10	764.5	41.7	5.4	85	.....	2	1	1	.....	1	2	10	13	.....	.....	5	2.92	74.1
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.35	745.5	30.12	765.0	30.8	— 0.7	87	2	5	2	.....	.....	.....	1	8	12	3298	5308	4	1.92	48.8
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.38	746.2	30.09	764.3	40.3	4.6	94	1	.....	.....	2	2	.....	.....	11	14	3702	5958	6	3.21	81.5
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.43	747.5	30.08	764.0	41.7	5.4	82	2	4	3	2	.....	1	11	4	3	.....	.....	6	2.63	66.8
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.65	702.3	30.01	762.2	30.1	— 1.1	91	3	3	1	1	10	2	1	3	6	.....	.....	6	2.63	66.8
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.78	756.4	30.14	765.5	35.6	2.0	84	1	2	4	10	.....	1	9	3	.....	.....	.....	3	1.58	40.1
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.69	754.1	30.16	766.1	31.3	— 0.4	85	.....	4	11	.....	2	1	.....	3	9	.....	.....	5	0.71	18.0
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	30.06	763 5	30.12	765.0	36.7	2.6	84	4	7	2	2	1	1	1	5	7	.....	.....	4	0.66	16.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	30.01	762.3	30.14	765.6	37.3	2.9	80	10	6	1	2	6	.....	1	1	3	.....	.....	5	0.29	7.4
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.00	762.0	37.6	3.1	.....	1	9	5	5	...	2	1	6	1	.....	.....	.....	1.57	40.
Sangeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.36	745.7	30.10	764.5	40.5	4.7	82	.....	1	.....	1	5	2	4	3	14	4751	7646	5	2.74	69.6
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	.....	.....	30.01	762.2	30.05	763.3	32.3	0.2	79	9	4	.....	.....	6	1	4	2	4	.....	.....	3	0	0
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.80	731.5	30.14	765.6	42.6	5.9	87	5	1	3	2	5	5	1	4	4	5199	8367	5	4.68	118.9
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.27	692.6	29.91	759.7	33.0	0.6	.....	3	.....	5	6	4	2	6	.....	4	.....	.....	4	2.23	56.6
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.99	761.7	30.05	763.3	32.9	0.5	88	8	5	2	4	8	.....	1	2	7854	12704	5	1.32	33.5
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.73	755.1	30.12	765.0	41.0	5.0	79	5	4	2	3	1	.....	3	9	3	.....	.....	7	2.93	74.4
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.03	737.3	30.11	764.8	41.8	5.4	81	3	2	3	4	3	4	2	9	.....	.....	.....	7	2.87	72.8
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	30.05	763.3	30.14	765.5	35.5	1.9	92	6	4	1	7	4	1	1	4	2	.....	.....	5	0.82	20.8
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.67	753.6	29.87	758.7	34.8	1.6	84	1	4	3	3	5	5	.....	9	.....	.....	.....	5	3.55	90.2
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.08	764.0	30.08	764.0	65.3f	18.5f	95f	1a	.....	11	3	.....	.....	10	.....	4	.....	.....	6	2.15	54.6
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.97	761.2	.....	.....	73.4	23.0	56	.....	6	.....	.....	.....	7	.....	.....	17	.....	.....	1	0.62	15.7
Springbok a	S. 29 45	E. 17 43	1.11 p.m.	?	?	26.85	682.0	.....	.....	79.0	26.1	76	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.95	23.1
Chinese.																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.84	757.9	29.90	759.4	69.0	20.6	88	.....	.....	2	1	.....	1	20	6	.....	.....	.....	8	5.66	143.8
Sub-series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.04	762.9	30.02	762.5	53.2	11.8	83	2	1	2	1	1	6	9	8	.....	.....	.....	6	2.61	66.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.			Inch.	Mill.
DANISH.	° ′	° ′																										
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.91	759.7	29.99	761.7	48.2	9.0	69	2	1	3	3	9	4	6	2	.....	.....	.....	.....	6	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.89	759.3	29.95	760.6	45.9	7.7	78	1	5	4	10	3	3	4	.....	.....	.....	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.76	755.8	29.85	758.2	31.1	— 0.5	84	.....	.....	1	3	3	9	8	4	2	.....	.....	.....	8	.....	.....
Thorahavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.79	756.6	29.85	758.2	43.9	6.6	76	5	.....	6	6	2	3	3	5	.....	.....	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.81	757.1	29.93	760.3	44.4	6.9	80	2	3	1	6	9	2	1	5	1	.....	.....	.....	6	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.36	745.7	30.00	762.1	59.0	15.0	68	1	4	2	2	.....	12	1	1	7	.....	.....	.....	7	1.57	39.9
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.45	747.9	29.99	761.8	59.7	15.4	68	1	.....	1	6	12	2	.....	8	.....	.....	.....	.....	.....	2.32	58.9
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.72	755.0	29.98	761.5	55.0	12.8	62	2	2	4	3	1	3	5	5	5	.....	.....	.....	4	1.85	47.1
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.86	758.4	29.94	760.4	64.4	18.0	53	7	3	2	8	7	2	1	.....	.....	.....	.....	.....	.....	2.50	63.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.37	746.0	29.93	760 3	59.2	15.1	60	.....	2	.....	7	6	6	3	6	.....	.....	.....	.....	7	1.54	39.1
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.60	751.8	29.96	760.9	57.7	14.3	67	13	.....	3	6	3	1	4	.....	.....	.....	.....	.....	.....	1.39	35.4
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.00	736.6	29.89	759.1	59.9	15.5	57	3	1	1	4	7	2	4	8	.....	.....	.....	.....	3	1.61	41.0
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.68	753.8	29.94	760.4	57.7	14.3	64	4	6	3	2	1	5	7	2	.....	.....	.....	.....	6	4.39	111.4
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.38	746.2	29.94	760.5	59.0	15.0	60	3	4	3	2	6	5	3	4	.....	.....	.....	.....	4	2.24	56.9
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.66	753 3	29.91	759.8	55.2	12.9	71	3	1	3	8	3	3	2	7	.....	.....	.....	.....	7	1.46	37.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.83	757.7	29.91	759.8	55.2	12.9	70	3	4	4	5	3	1	7	.....	.....	.....	.....	.....	6	1.58	40.1
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.64	752.8	29.97	761.1	59.0	15.0	79	1	2	3	8	10	2	2	2	.....	.....	.....	.....	5	1.36	34.5
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.42	747.2	29.93	760.3	57.9	14.4	58	3	2	.....	3	4	6	5	7	.....	.....	.....	.....	7	1.56	39.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.58	725.8	29.91	759.8	60.3	15.7	49	4	2	3	3	3	10	4	1	.....	.....	.....	.....	6	1.89	48.1
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.08	738.7	29.94	760.5	60.8	16.0	51	5	1	2	5	9	5	.....	3	.....	.....	.....	.....	5	2.16	54.9
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.04	737.6	29.91	759.7	56.8	13.8	87	.....	6	5	5	.....	4	5	5	.....	.....	.....	.....	4	10.20	259.1
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.40	695.9	29.91	759.7	57.7	14.3	54	1	.....	1	6	1	.....	.....	5	16	.....	.....	.....	6	1.97	50.0
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.80	731.6	29.91	759.8	59.4	15.2	57	1	1	3	5	.....	5	12	3	.....	.....	.....	.....	5	1.32	33.4
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.24	742.8	30.02	762.5	59.7	15.4	52	1	15	2	5	3	.....	1	1	3	.....	.....	.....	6	2.80	71.1
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.37	720.5	29.96	760.9	50.5	10.3	71	3	5	4	10	1	.....	2	4	1	.....	.....	.....	5	0.66	16.8
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.36a	745.7a	29.92a	760.0a	60.4	15.8	66	3	5	8	3	.....	3	.....	8	.....	.....	.....	.....	7	4.22	107.1
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.84	758.0	29.96	760.9	55.8	13.2	72	6	2	1	6	3	7	2	3	.....	.....	.....	.....	5	1.08	27.5
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.88	733.6	29.93	760.1	59.0	15.0	55	6	3	.....	.....	8	9	3	1	.....	.....	.....	.....	6	1.59	40.3
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.64	752.8	29.95	760.7	56.8	13.8	58	1	2	3	4	8	3	1	8	.....	.....	.....	.....	5	3.47	88.1
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.66	753.3	29.92	760.0	61.2	16.2	55	1	2	10	2	1	6	7	1	.....	.....	.....	.....	.....	1.04	26.4
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24 76	628.8	29.60	751.8	44.4	6.9	62	3	6	1	7	2	2	8	1	.....	.....	.....	.....	7	3.52	89.5
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.82	757.4	29.91	759.6	61.0	16.1	72	3	6	2	2	5	10	.....	2	.....	.....	.....	.....	.....	1.35	34.4
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.74	603.0	.....	.....	.....	.....	.....	7	2	1	1	10	8	.....	1	.....	.....	.....	.....	6	5.63	142.9
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.14	740.2	29.94	760.5	58.5	14.7	59	2	1	2	.....	3	6	6	10	.....	.....	.....	.....	.....	1.30	32.9
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.80	756.9	29.96	760.9	57.7	14.3	63	6	2	3	4	3	6	4	2	.....	.....	.....	.....	7	1.52	38.6
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.84	757.8	29.89	759.2	60.8	16.0	74	2	.....	1	.....	.....	1	6	3	17	.....	.....	.....	3	2.10	53.3
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.84	758.0	29.95	760.8	58.8	14.9	64	1	10	2	1	2	6	6	2	.....	.....	.....	.....	7	1.82	46.1
Pic du Midi (Sum.	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.06	534.9	.....	.....	27.3	— 2.6	85	.....	5	2	9	.....	1	.....	2	11	.....	.....	.....	.....	6.28	159.4
Privas.....[mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.86	733.1	29.95	760.7	59.2	15.1	57	10	1	2	.....	14	1	.....	.....	2	.....	.....	.....	5	2.32	59.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.03	635.8	.....	.....	37.8	3.2	86	4	3	4	4	2	12	1	.....	.....	.....	.....	.....	7	7.94	201.6
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.89	759.2	29.92	760.0	61.0	16.1	60	4	1	5	3	2	9	.....	6	.....	.....	.....	.....	5	2.03	51.6
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.51	749.6	29.93	760.1	57.2	14.0	62	3	2	7	3	3	6	2	4	.....	.....	.....	.....	5	2.06	52.3
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.80	706.1	29.95	760.8	53.8	12.1	52	5	6	.....	.....	1	2	15	.....	2	.....	.....	.....	5	2.16	54.8
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.90	759.4	29.96	760.9	57.7	14.3	59	1	1	3	7	4	1	6	7	.....	.....	.....	.....	.....	1.42	36.0
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.77	756.2	29.95	760.7	57.6	14.2	56	9	3	.....	6	5	.....	6	1	.....	.....	.....	.....	5	1.42	58.6
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.25	743.0	29.97	761.3	58.8	14.9	66	1	10	3	.....	.....	.....	15	.....	1	.....	.....	.....	7	2.31	63.2
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.76	755.8	29.94	760.4	57.9	14.4	68	5	2	1	4	8	2	5	3	.....	.....	.....	.....	.....	2.49	94.9
Sub-Series.																									7	3.74	
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.81	757 2	29.96	761.0	59.4	15.2	66	3	3	8	2	1	3	6	3	1	.....	.....	.....	7	4.80	121.8
GERMAN.																											
Ansbach	N. 45 18	E. 10 36	0.42 p.m.	1358	414	28.50	723 9	29.95	760.6	56.7	13.7	51	2	4	2	5	1	3	4	7	2	.....	.....	.....	5	1.86	47.2
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.07	738.4	29.93	760.2	57.2	14.0	59	5	5	3	4	1	5	2	4	1	.....	.....	.....	6	2.20	55.8
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.83	757.7	30.00	762.0	55.8	13.2	48	5	5	5	2	5	6	2	3	1	.....	.....	.....	6	1.72	43.6
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.47	748.4	30.02	762.4	56.5	13.6	49	1	2	5	1	3	9	5	2	2	.....	.....	.....	6	0.72	18.3
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.49	749.0	29.96	761.0	59.5	15.3	50	1	1	1	11	3	1	2	10	.....	.....	.....	.....	5	1.48	37.6
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.22	742.1	29.95	760.8	55.4	13.0	53	7	4	2	4	7	.....	1	4	1	.....	.....	.....	6	1.11	28.2
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.58	751.3	30.01	762 3	58.5	14.7	50	6	1	4	5	3	4	3	4	.....	.....	.....	.....	6	0.90	22.8
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.52	724.4	29.93	760.1	55.4	13.0	64	.....	1	3	18	3	.....	1	4	.....	.....	.....	.....	5	2.85	72.3
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.87	758.7	29.98	761.5	52.0	11.1	62	2	2	5	9	1	4	3	4	.....	.....	.....	.....	5	2.12	53.9
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.92	759.9	30.01	762.2	48.7	9.3	65	2	3	3	10	3	1	2	6	.....	.....	.....	.....	6	1.90	48.3
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.54	750.4	29.98	761.5	55.0	12.8	62	3	2	5	3	5	4	2	6	.....	.....	.....	.....	7	2.68	68.1
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.04	762.9	30.10	764.5	50.4	10.2	71	.....	5	3	3	7	7	3	2	.....	.....	.....	.....	5	.....	61.6
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.11	713.9	29.96	761.0	56.1	13.4	54	.....	3	9	1	.....	.....	5	8	4	.....	.....	.....	6	2.42	17.0
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.00	762.0	30.06	763.5	53.1	11.7	61	4	1	2	2	9	4	6	2	.....	.....	.....	.....	5	0.67	25.0
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.43	747.4	29.96	761.0	58.5	14.7	55	5	.....	8	3	3	4	4	3	.....	.....	.....	.....	6	0.98	21.3
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.06	738.0	29.94	760.4	58.3	14.6	50	3	4	3	6	.....	2	4	7	1	.....	.....	.....	6	0.84	17.4
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.95	760.6	29.99	761.7	48.9	9.4	70	5	1	4	7	2	7	1	3	.....	.....	.....	.....	5	0.68	
GREEK.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.64	752.9	30.00	762.1	65.8	18.8	62	1	.....	.....	4	12	8	1	4	.....	.....	.....	.....	5	1.56	39.5
INDIAN.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.72	754.8	29.72	754.8	84.4	29.1	59	.....	.....	.....	19	11	.....	.....	.....	.....	.....	.....	.....	0	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.27	743.5	29.67	753.6	101.8	38.8	13	2	4	11	12	1	.....	.....	.....	.....	.....	.....	.....	1	0	0.2
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.76	755.9	29.74	755.3	84.4	29.1	66	3	16	10	1	.....	.....	.....	.....	.....	.....	.....	.....	1	0.01	18.5
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.93	709.5	29.66	753.4	94.1	34.5	19	.....	18	9	1	1	.....	.....	1	.....	.....	.....	.....	2	0.73	23.1
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.26	692.3	29.66	753 2	86.6	30.3	46	2	4	16	6	.....	1	.....	1	.....	.....	.....	.....	2	0.91	0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.02	737.1	29.68	753.8	90.9	32.7	23	4	9	8	.....	2	1	.....	1	5	.....	.....	.....	3	0	0
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.80	731.4	29.63	752.5	92.1	33.4	16	.....	.....	19	.....	.....	2	.....	.....	9	.....	.....	.....	1	0	0
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.14	740.3	29.64	752.8	98.4	36.9	18	1	12	14	1	.....	.....	1	1	.....	.....	.....	.....	1	0	0
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.66	728.0	29.60	751.9	102.0	38.9	12	5	5	8	6	1	1	1	2	.....	.....	.....	.....	1	0	0
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.38	720.9	29.62	752.5	97.8	36.6	10	10	16	1	.....	.....	1	.....	2	.....	.....	.....	.....	1	0	0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.33	744.9	29.64	752.9	96.2	35.7	16	8	8	4	.....	.....	1	1	2	.....	.....	.....	.....	1	0	0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.37	746.0	29.62	752.4	98.4	36.9	16	7	20	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1	0	0
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.50	749.3	29.63	752.6	94.3	34.6	23	4	10	10	.....	.....	.....	2	2	.....	.....	.....	.....	1	0	0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.74	704.5	29.63	752.5	90.5	32.5	12	6	17	5	1	1	.....	.....	.....	.....	.....	.....	.....	1	0.31	7.9
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.65	753.2	29.67	753.7	89.8	32.1	54	.....	1	2	2	6	8	.....	.....	.....	.....	.....	.....	1	0	0
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.69	754.0	29.65	753.2	88.5	31.4	54	1	2	2	10	12	2	.....	13	.....	.....	.....	.....	1	0	0
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.59	751.5	29.66	753.2	83.5	28.6	57	2	.....	2	7	4	1	4	6	.....	.....	.....	.....	1	2.51	63.8
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.70	754.5	29.74	755.3	80.9	27.2	81	.....	1	4	10	10	5	.....	.....	.....	.....	.....	.....	1	0.18	4.6
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.44	747.8	29.73	755.2	76.2	24.6	75	2	1	.....	1	3	1	.....	22	1	.....	.....	.....	3	0.44	176.8
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.31	719.0	29.64	753.0	97.5	36.4	18	4	17	7	1	.....	.....	.....	1	.....	.....	.....	.....	5	6.96	0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.25	717 5	29.58	751.3	100.2	37.9	18	.....	8	3	6	2	6	2	3	.....	.....	.....	.....	2	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.53	750.2	29.73	755.2	96.4	35.8	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	0	0
ITALIAN.																									4		
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.49	749.0	29.90	759.4	61.5	16.4	57	.....	1	.....	5	8	6	5	2	3	.....	.....	.....	6	3.48	88.4
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.43	747.5	29.95	760.7	62.1	16.7	51	1	3	3	5	2	3	8	5	.....	.....	.....	.....	7	1.91	48.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.84	758.0	29.95	760.8	60.6	15.9	58	2	.....	4	1	1	1	2	6	3	.....	.....	.....	6	1.34	34.0
Moncalliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.04	737.5	29.94	760.5	58.3	14.6	63	1	8	1	6	2	6	6	.....	.....	.....	.....	.....	6	1.14	181.7
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.75	755.6	29.94	760.5	60.4	15.8	64	7	.....	.....	.....	10	3	10	.....	.....	.....	.....	.....	6	7.15	40.3
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.91	759.7	29.96	760.9	57.7	14.3	72	7	1	.....	.....	.....	2	.....	11	9	.....	.....	.....	6	1.59	64.4
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.67	753.7	29.93	760.2	63.5	17.5	50	4	8	2	3	1	1	.....	5	.....	.....	.....	.....	6	2.54	68.3
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.86	758.5	29.95	760.7	62.1	16.7	63	m1	4	2	3	1	1	.....	5	.....	.....	.....	.....	6	2.69	85.9
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.76	755.9	29.94	760.4	63.0	17.2	56	2	2	2	15	5	.....	2	1	1	.....	.....	.....	8	3.38	87.5
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.70	754.4	29.96	760.9	63.3	17.4	57	4	.....	1	6	4	5	3	7	.....	.....	.....	.....	7	3.44	43.0
																									6	1.69	

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Cosenza																										
Palermo	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.07	738.3	29.96	761.0	60.4	15.8	70	.....	10	15	3	.....	2	.....	.....	.....	.....	.....	6	3.76	95.5
Syracuse	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.72	754.8	29.97	761.1	65.1	18.4	57	.....	2	6	3	.....	2	2	10	5	.....	.....	6	2.51	63.7
Sub-Series.	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.93	760.3	29.98	761.4	63.5	17.5	67	4	2	4	5	2	2	6	5	.....	.....	.....	7	2.83	72.0
Stelvio																										
Valdobbia	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.04	559.9	.....	... .	31.6	— 0.2	74	.....	4	1	4	1	1	1	8	.....	.....	.....	7	3.19	81.1
JAPANESE.	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.08	560.9	.....	.....	33.8	1.0	67	.....	6	4	6	.....	4	4	6	.....	.....	.....	8	.....	.....
Akita																										
Awomori	N. 39 42	E.140 07	9.20 p.m.	33	10	30.01	762.3	30.05	763.2	47.0	8.4	83	1	2	7	1	.....	1	6	1	11	.....	.....	7	2.40	61.1
Fushiki	N. 40 51	E.140 45	9.23 p.m.	33	10	30.01	762.2	30.03	762.8	44.9	7.2	77	.....	1	2	6	3	.....	3	2	13	1982*a*	3190*a*	5	1.26	31.9
Gifu	N. 36 47	E.137 03	10.05 p.m.	13	4	30.05	763.2	30.04	763 0	50.3	10.2	83	8	2	.....	3	2	.....	.....	4	11	4393	7069	5	4.16	105.7
Hakodate	N. 35 27	E.136 46	9.07 p.m.	49	15	30.00	762.0	30.03	762.7	54.3	12.3	79	7	2	4	2	1	5	1	.....	7	.....	.....	6	8.10	206.1
Hamamatsu	N. 41 46	E.140 44	9.23 p.m.	10	3	30.02	762.4	30.02	762.5	42.7	6.0	82	3	2	5	2	2	2	5	.....	10	4631	7452	5	1.16	29.8
Hiroshima	N. 34 42	E.137 43	9.11 p.m.	92	28	29.93	760.0	29.99	761.8	55.9	13.3	83	2	4	6	1	1	.....	11	3	2	.....	.....	6	6.32	160.5
Kanazawa	N. 34 23	E.132 27	8.50 p.m.	15	5	30.03	762.6	30.01	762.4	55.2	12.9	77	18	2	1	3	2	.....	1	1	2	3409	5485	5	4.76	120.7
Kago-hima	N. 36 33	E.136 40	9.07 p.m.	95	29	29.96	761.0	30.04	763.1	49.9	10.0	84	1	2	1	3	1	2	11	2	7	3451	5552	6	5.40	137.3
Kioto	N. 31 35	E.130 33	8.42 p.m.	13	4	30.03	762.7	30.00	762.1	59.5	15.3	81	1	10	2	.....	3	1	3	4	6	2668	4294	5	6.22	157.9
Kochi	N. 35 01	E.135 46	9.03 p.m.	161	49	29.88	759.2	30.03	762.9	52.8	11.5	76	14	6	.....	1	.....	4	.....	4	1	3025	4868	6	3.58	90.6
Miasaki	N. 33 33	E.133 34	8.54 p.m.	20	6	30.01	762.2	30.00	762.0	59.6	15.3	80	4	7	5	1	.....	2	5	1	5	4442	7309	6	9.90	251.5
Miyako	N. 31 56	E.131 26	8.46 p.m.	26	8	30.01	762.2	30.00	762.0	59.6	15.3	87	6	1	6	.....	4	.....	7	.....	6	5186	8346	6	9.63	244.7
Nagasaki	N. 39 38	E.141 59	9.28 p.m.	98	30	29.94	760.5	30.03	762.9	44.9	7.2	80	5	1	8	8	2	1	1	2	2	2808	4521	6	2.20	55.8
Nemuro	N. 32 44	E.129 52	8.39 p.m.	190	58	29.83	757.7	30.00	762.1	56.9	13.8	79	14	1	1	4	1	2	3	3	1	3925	6315	5	7.76	197.1
Niigata	N. 43 20	E.145 35	9.42 p.m.	43	13	29.97	761.3	30.02	762.4	36.8	2.6	83	3	1	2	.....	10	2	6	.....	6	4478	7206	4	1.19	29.8
Nobiru	N. 37 55	E.139 03	9.16 p.m.	33	10	30.03	762.7	30.04	763.1	49.2	9.5	84	5	...	.....	4	3	2	1	3	12	4431	7131	6	4.22	107.2
Numadzu	N. 38 23	E.141 11	9 25 p.m.	16	5	30.04	762.9	30.04	762.9	47.1	8.4	84	4	4	1	1	8	2	4	2	4	6576	10583	4	2.64	67.0
Osaka	N. 35 06	E.138 51	9.15 p.m.	30	9	29.97	761.1	29.98	761.3	56.4	13.6	78	.....	1	1	4	3	.....	13	8	.....	.....	.....	7	5.37	136.4
Sakai	N. 34 42	E.135 30	9.02 p.m.	46	14	30.01	762.1	30.04	762.7	54.5	12.5	77	6	.....	2	1	1	1	2	10	7	4072	6553	6	4.80	121.6
Shimonoseki	N. 35 33	E.133 14	8.53 p.m.	7	2	30.04	763.0	30.02	762.6	52.4	11.4	82	4	3	5	.....	2	.....	6	4	6	4481	7211	6	3.97	100.9
Soya	N. 33 58	E.130 56	8.44 p.m.	135	41	29.90	759.6	30.02	762.5	53.7	12.1	81	1	2	1	1	.....	1	5	2	17	.....	.....	5	4.84	123.3
Supporo	N. 45 29	E.141 51	9.27 p.m.	39	12	29.90	759.4	29.94	760.4	40.6	4.8	79	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0.30	7.7
Tokei	N. 43 04	E.141 23	9.26 p.m.	59	18	29.93	760.3	30.00	761.9	42.2	5.7	75	1	1	.....	4	9	3	1	.....	11	5620	9042	4	0.45	11.5
Wakayama	N. 35 41	E.139 46	9.19 p.m.	69	21	29.98	761.3	30.03	762.7	53.6	12.0	77	6	1	.....	1	7	2	9	4	.....	6857	10953	7	4.14	105.4
MAURITIUS.	N. 34 14	E.135 09	9.01 p.m.	49	15	29.98	761.5	30.01	762.2	56.7	13.7	74	8	.....	1	1	4	.....	1	3	12	2352	3786	6	5.55	141.1
Mauritius																										
MEXICAN.	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.72	754.9	29.84	757.9	79.5	26.4	70	1	.....	.....	.....	1	8	14	6	.....	4900	7886	7	3.12	79.2
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.66	601.1	29.79	756.7	58.5	14.7	50	2	3	1	3	12	4	2	3	.....	.....	.....	4	0.18	4.6
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.27	616.4	29.88	758.9	56.7	13.7	68	8	11	3	2	3	1	.....	2	.....	.....	.....	8	Inap.	Inap.
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.68	754.0	29.90	759.4	65.2	18.4	90	.....	8	.....	1	.....	3	10	8	.....	.....	.....	4	0	0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.05	585.3	30.05	763.3	53.2	11.8	65	.....	1	.....	.....	.....	.....	.....	.....	29	.....	.....	3	0.34	8.5
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.35	593.0	30.04	763.0	51.0	10.5	46	1	1	1	.....	1	2	2	5	17	.....	.....	0	0	0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.95	760.6	29.97	761.1	51.6	10.9	.....	5	1	4	8	2	1	2	7	.....	.....	.....	.....	0.92	23.5
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.89	759.1	29.96	760.9	49.3	9.6	.....	3	1	6	6	1	1	5	8	.....	.....	.....	.....	1.61	41.0
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.93	760.3	29.95	760.8	46.6	8.1	.....	2	1	1	6	7	.....	2	11	.....	.....	.....	.....	0.67	17.1
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.94	760.5	29.96	761.0	52.5	11.4	.....	2	1	2	9	2	.....	9	2	.....	.....	.....	.....	0.35	8.9
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.91	759.6	29.97	761.3	53.6	12.0	.....	11	2	2	5	9	1	.....	.....	.....	.....	.....	5	0.72	18.4
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.72	754.9	80.2	26.8	83	3	3	10	3	1	1	1	4	4	.....	.....	6	3.15	80.
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.80	756.8	29.90	759 4	45.0	7.2	66	2	6	9	1	7	3	.....	1	1	.....	.....	5	.....	.....
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.82	757.3	29.91	759.6	42.3	5.7	67	6	1	.....	4	7	2	4	1	5	.....	.....	7	1.95	49.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.77	756.2	29.96	760.9	44.8	7.1	63	3	1	.....	4	12	1	2	3	4	.....	.....	7	2.02	51.3
Gjesvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.80	757.0	29.89	759.1	32.0	0.0	.....	4	1	2	4	1	4	3	3	8	.....	.....	9	1.47	37.4
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	29.94	760.4	29.99	761.8	64.8	18.2	64	.....	1	3	14	2	4	4	1	1	.....	.....	6	6.04	153.3
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.61	752.0	29.93	760.1	60.6	15.9	65	9	6	1	4	5	2	.....	3	.....	.....	.....	6	3.89	98.8
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	29.99	761.8	30.05	763.2	63.1	17.3	70	5	1	3	4	2	2	5	5	3	.....	.....	4	3.94	100.0
Saint Vincent *b...*	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.93	760.3	29.91	759.6	77.2	25.1	61	23	.....	.....	.....	.....	.....	.....	4	1	.....	.....	3	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.00	711.3	29.74	755.5	81.7	27.6	68	1	2	3	5	2	1	.....	1	15	.....	.....	7	7.84	199.2
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.14	638.6	29.90	759.5	41.5	5.3	84	1	2	7	1	2	5	7	5	.....	.....	.....	7	22.43	569.7
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.79	756.7	29.95	760.7	58.6	14.8	75	3	1	2	3	6	4	8	3	.....	.....	.....	6	0.66	16.8
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.89	759.1	29.95	760.6	61.2	16.2	66	5	12	.....	2	6	2	.....	2	1	2632	4236	8	6.40	162.5
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	26.99	685.5	29.97	761.8	51.6	10.9	72	4	1	4	4	6	4	.....	7	.....	6130	9866	8	4.25	107.9
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.71	703.9	29.91	759.8	58.6	14.8	59	1	2	2	5	9	.....	3	5	3	8120	13068	6	5.71	145.1
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	28.99	736.4	29.91	759.7	57.9	14.4	68	3	1	1	7	2	2	.....	12	2	7809	12567	7	5.54	140.7
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.94	760 3	29.95	760.7	69.2	20.6	81	7	2	.....	2	3	4	11	1	.....	.....	.....	4	8.18	207.9
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.85	758.2	29.84	757.8	82.8	28.2	74	.....	1	.....	3	3	13	8	2	.....	5233	9691	2	1.24	31.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.87	758.8	29.95	760.7	64.1	17.8	69	.....	1	9	3	4	4	5	2	2	.....	.....	6	2.00	50.8
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.90	759.4	29.93	760.2	78.3	25.7	77	.....	1	... ...	.....	3	15	2	1	8	.....	.....	4	3.97	100.8
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.87	758.6	29.96	760.9	35.6	2.0	77	4	2	1	5	6	1	3	3	5	.....	.....	7	1.96	49.8
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.87	758.6	29.97	761 1	39.9	4.4	77	6	2	1	10	3	1	2	5	.....	.....	.....	6	1.29	32.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.89	759.3	29.99	761.7	42.3	5.7	62	3	2	1	1	12	3	2	2	4	.....	.....	6	1.22	31.0
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.81	757.2	30.03	762.7	46.0	7.8	56	4	.....	7	1	7	3	3	3	2	.....	.....	5	1.55	39.4
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.91	759.8	30.00	762.1	45.3	7.4	68	1	3	9	4	5	1	5	2	.....	.....	.....	4	1.68	42.6
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.87	758.8	30.00	762.0	46.6	8.1	58	3	1	3	3	11	4	1	4	.....	.....	.....	6	1.76	44.6
Swiss.																										
Geneva	N. 46 12	E. 6 08	0.25 p m.	1339	408	28.52	724.3	29.94	760.4	56.1	13.4	54	20	.....	.....	3	6	.....	1	.....	.....	.....	.....	7	1.48	37.6
TURKISH.																										
Constantinople	N. 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.04	763.1	54.7	12.6	62	14	3	.....	7	1	1	.....	4	.....	.....	.....	6	1.42	36.1
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.00	762.0	67.5	19.7	.....	.....	.....	3	23	2	2	.....	.....	.....	.....	.....	6	3.15	80
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.93	760.3	67.5	19.7	66	7	5	5	5	.....	.....	.....	7	1	.....	.....	5	0.58	14.8
UNITED STATES.																										
New Eng'd states.																										
Eastport																										
Portland	N. 44 54	W. 66 59	7.32 a.m.	61	19	30.05	763.3	30.12	765.0	38.0	3.3	78	10	2	1	4	6	....	1	4	2	5246	8442	4	1.14	29.0
Mt. Washington	N. 43 39	W. 70 15	7.19 a.m.	99	30	30.03	762.7	30.14	765.5	42.1	5.6	74	5	2	4	7	3	.....	.....	8	1	5382	8661	5	2.28	57.9
Boston	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.78	604.0	30.19	766.8	26.9	— 2.8	92	1	16	3	1	.....	2	3	2	2	18645	30006	4	3.36	85.3
Block Id	N. 42 21	W. 71 04	7.16 a.m.	124	38	30.02	762.5	30.14	765.5	45.8	7.7	69	1	4	5	4	2	2	6	6	.....	7664	12334	5	1.70	43.2
New London	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.12	765.0	30.14	765.5	43.5	6.4	90	2	3	4	4	1	2	3	11	.....	8895	14315	6	3.26	82.8
New Haven	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.11	764.8	30.15	765.8	46.2	7.9	79	4	1	1	4	1	1	2	9	7	4768	7673	7	3.63	92.2
Mid. Atlan. states.	N. 41 18	W. 72 56	7.08 a.m.	107	33	30.03	762.7	30.14	765.5	44.0	6.7	81	4	2	1	3	3	2	1	11	3	4988	8027	7	3.21	81.5
Albany																										
New York City	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.08	764.0	30.16	766.1	45.2	7.3	77	5	1	1	1	11	.....	.....	4	7	3576	5755	7	3.67	93.2
Philadelphia	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.96	761.0	30.13	765.3	45.9	7.7	81	3	3	2	5	1	.....	3	13	.....	6220	10010	6	4.95	125.7
Sandy Hook	N. 39 57	W. 75 09	6.59 a.m.	117	36	30.01	762.2	30.13	765 3	48.1	8.9	83	3	3	1	5	2	.....	4	10	2	6546	10535	6	2.70	68.6
Atlantic City	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.11	764.8	30.13	765.3	45.1	7.3	87	1	2	5	4	1	2	13	2	.....	10769	17331	6	5.06	128.5
Baltimore	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.11	764.8	30.11	764.8	47.0	8.3	84	1	5	3	7	.....	.....	9	5	.....	7641	12297	5	1.86	47.2
Washington City	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.07	763.8	30.10	764.5	49.5	9.7	78	3	2	3	3	.....	1	3	13	2	4085	6574	6	2.06	52.3
Chincoteague	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.01	762.2	30.11	764.8	49.1	9.5	87	2	5	.....	2	5	.....	4	8	4	4281	6890	6	2.71	68.8
	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.10	764.5	30.09	764.3	50.8	10.4	83	2	4	2	4	3	1	2	10	.....	8265	13301	5	2.59	65.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for April, 1886.																				Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. States—Con.																												
M. At. States—Con.	° ′			° ′																								
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.09	764.3	30.09	764.3	51.8	11.0	83	2	2	2	5	4	1	2	10	2	9705	15618	3	1.98	50.3
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.42	747 3	30.10	764.5	49.7	9.8	84	2	.....	3	4	2	.....	5	12	2	2884	4641	5	4.82	122.4
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.08	764.0	30.10	764.5	52.0	11.1	83	2	.....	2	2	6	4	.....	12	2	4456	7171	5	3.16	80.3
S Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.10	764.5	30.09	764.3	52.9	11.6	82	3	2	8	2	3	.....	2	9	1	10172	16370	5	5.00	127.0
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.09	764.3	30.08	764.0	57.2	14.0	87	8	1	2	3	3	2	4	6	1	7796	12546	5	2.97	75.4
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.09	764.3	30.07	763.8	57.9	14.4	90	5	4	1	6	3	1	2	8	.....	10984	17677	5	2.89	73.4
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.05	763.3	30.06	763.5	57.7	14.3	89	6	1	7	3	.....	3	1	9	.....	8449	13597	4	3.10	78.7
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.05	763.3	30.08	764.0	57.9	14.4	79	1	1	5	5	2	5	3	8	.....	5520	8883	5	3.26	82.8
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.25	742 9	30.08	764.0	53.3	11.8	84	2	.....	4	6	3	1	4	7	3	4441	7147	5	3.88	98.6
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.04	763.0	30.06	763.5	58.7	14.8	82	4	1	4	6	.....	.....	4	10	1	6802	10946	5	1.19	30.2
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.93	760.2	30.08	764.0	55.6	13.1	83	1	3	2	3	4	5	4	4	4	3228	5195	4	1.86	47.2
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.01	762.2	30.07	763.8	59.7	15.4	85	4	1	4	8	3	.....	6	4	.....	6968	11214	4	2.06	52.3
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.04	763.0	30.05	763.3	62.0	16.7	83	.....	1	6	1	5	1	3	10	3	5526	8893	4	3.08	78.2
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.02	762.5	30.00	762.0	61.4	16.3	88	5	4	3	.....	2	3	4	9	.....	7377	11872	4	1.61	40.9
Key West *k*	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.94	760.5	29.91	759.7	73.2	22.9	79	3	1	.....	2	1	2	3	7	.....	6683	10755	4	1.99*a*	a50.5
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.04	763.0	30.03	762.7	61.9	16.6	84	5	3	4	1	2	2	2	9	2	5827	9378	4	6.60	167.6
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.92	734.6	30.08	764.0	53.6	12.0	79	.....	3	6	6	.....	8	5	2	.....	7862	12652	5	2.52	64.0
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.03	762.7	30.02	762.5	61.4	16.3	80	5	2	1	3	5	3	7	3	1	5909	9510	4	6.83	173.5
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.03	762.7	30.03	762.7	59.1	15.1	90	4	4	2	2	5	3	5	5	.....	6067	9764	5	5.86	148.8
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.85	758.2	30.05	763.3	56.7	13.7	81	2	3	2	.....	7	6	8	2	.....	4716	7590	4	7.38	187.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	209	64	29.82	757.4	30.02	762.5	57.1	13.9	83	3	2	.....	2	4	9	6	4	.....	4481	7211	6	9.99	253.7
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.99	761.7	30.01	762.2	60.7	15.9	88	4	3	5	.....	2	7	5	4	.....	6045	9728	4	5.60	142.2
West Gulf states																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.79	756.7	30.00	762.0	57.2	14.0	86	3	1	2	1	14	3	4	2	.....	4700	7564	5	5.14	130.6
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.52	749 8	29.99	761.7	51.3	10.7	84	4	2	.....	2	.....	11	8	3	.....	4068*a*	6547*a*	5	7.29	185.2
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.70	754.4	29.98	761.5	53.9	12.2	84	2	4	2	5	8	4	3	2	.....	4739	7627	7	3.09	78.5
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.98	761.5	29.98	761.5	64.4	18.0	86	1	2	2	.....	7	11	3	4	.....	8096	13029	6	2.15	54.6
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.95	760.7	29.94	760.5	61.7	18.2	91	5	.....	.....	1	9	5	5	3	2	10108	16267	6	0.80	20.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.48	748.8	30.01	762.2	57.7	14.3	86	6	2	2	1	12	3	4	.....	.....	6029	9702	6	2.75	69.8
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.15	740.4	29.92	760.0	59.3	15.2	86	6	.....	1	2	5	9	2	4	1	7006	11275	6	2.23	56.6
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.89	759.2	29.90	759.4	66.7	19.3	92	3	.....	.....	2	8	11	5	1	.....	6623	10660	6	0.17	4.3
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.74	755.4	29.89	759.2	67.8	19.9	83	5	1	.....	.....	.....	9	11	3	1	5842	9402	6	0.10	2.5
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.28	743.7	30.09	764.3	53.5	11.9	82	2	5	5	5	4	5	3	1	.....	4631	7453	5	4.52	114.8
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.06	738.1	30.08	764.0	52.6	11.4	84	7	1	5	2	.....	.....	6	5	4	3999	6436	6	5.30	134.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.71	754.6	30.02	762.5	54.3	12.4	78	2	4	3	1	1	14	1	4	.....	5228	8414	5	2.88	73.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.47	748.5	30.03	762.7	51.3	10.7	79	4	4	2	3	1	8	6	2	.....	5273	8486	5	2.36	59.9
Louisville	N. 38 15	W 85 45	6.17 a.m.	551	168	29.48	748.8	30.06	763.5	50.4	10.2	77	7	.....	3	3	2	6	3	2	4	5109	8222	6	3 38	85.9
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.10	739.1	30.04	763.0	49.4	9.7	79	3	2	.....	4	3	11	2	5	.....	5993	9645	6	3.27	83.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.23	742.4	30.04	763.0	48.6	9.2	75	1	3	2	3	3	9	3	5	1	4164	6701	6	3.09	78.5
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.40	746.7	30.06	763.5	48.9	9.4	78	4	2	.....	3	3	10	1	4	3	5343	8598	5	2.23	56.6
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	247	29.21	741.9	30.08	764.0	47.7	8.7	76	6	1	2	5	3	7	2	4	.....	5441	8772	5	3.57	90.7
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.17	740.9	30.07	763.8	48.0	8.9	84	1	5	3	3	1	4	3	4	6	4055	6526	5	4.03	102.4
Lower lake region.																												
Rochester	N. 43 06	W. 77 42	6.49 a.m.	621	189	29.44	747.8	30.12	765.0	43.3	6.3	86	.....	1	4	9	3	2	5	4	2	7455	11997	6	4.05	102.9
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.36	745.7	30.12	765.0	42.5	5.8	82	3	.....	3	5	6	1	3	9	.....	6945	11177	5	3.25	82.5
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.75	755.6	30.12	765.0	43.2	6.2	76	2	1	3	5	5	5	1	6	2	7033	11318	5	3.60	93.0
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.34	745.2	30.08	764.0	44.6	7.0	76	.....	.....	4	4	9	1	7	4	1	7160	11523	4	3.05	77.5
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.39	746.5	30.08	764.0	45.2	7.3	80	5	.....	3	5	6	1	7	3	.....	9390	15112	6	2.35	59.7
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.32	744.7	30.07	763.8	44.7	7.1	83	5	.....	3	1	8	9	1	3	.....	6697	10778	5	1.78	45.2
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.37	746.0	30.07	763.8	43.9	6.6	80	7	.....	1	4	7	1	4	6	.....	7158	11520	6	2.08	52.8
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.36	745.7	30.08	764.0	45.4	7.4	82	2	1	4	4	3	2	5	6	3	7562	12170	5	3.30	83.8
Upper lake region.																												
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.42	747.3	30.11	764.8	34.8	1.6	88	1	5	7	2	1	2	7	3	2	5192	8356	5	3.51	89.2
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.40	746.7	30.09	764.3	32.6	0.3	84	10	4	.....	1	7	1	3	4	.....	4657	7495	6	2.28	57.9
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.37	746.0	30.05	763.3	43.2	6.2	80	2	2	3	.....	3	3	11	5	1	7810	12569	7	2.84	72.1
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.41	747.0	30.09	764.3	34.7	1.5	80	2	.....	5	1	1	6	9	1	5	5694	9163	5	1.33	33.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.34	745.2	30.10	764.5	37.2	2.9	82	.....	7	8	1	5	.....	1	6	2	4947	7961	5	2.14	54.4
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.39	746.5	30.10	764.5	39.7	4.3	81	7	.....	2	3	3	5	4	5	1	6840	11008	5	2.48	63.0
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.33	745.0	30.05	763.3	46.6	8.1	87	4	4	2	5	2	9	1	3	.....	6148	9894	6	1.29	32.8
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.30	744.2	30.07	763.8	39.5	4.2	85	7	3	3	3	2	8	.....	4	.....	7426	11951	7	2.77	70.4
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.32	744.7	30.08	764.0	33.8	1.0	89	1	5	.....	1	.....	1	1	15	6	4682	7535	4	4.97	126.2
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.08	738.6	29.99	761.7	42.6	5.9	86	2	2	3	3	2	5	6	1	6	5130	8256	6	3.67	93.2
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.25	742.9	30.03	762.7	45.9	7.7	78	6	3	.....	4	11	3	1	2	.....	5853	9419	5	1.69	42.9
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.36	745.7	30.02	762.5	45.9	7.7	79	7	2	1	2	7	3	5	3	.....	6652	10705	6	1.84	46.7
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.09	738.9	30.00	762.0	46.3	7.9	83	5	2	.....	3	3	6	3	1	7	3566	5739	7	4.32	109.7
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.30	744.2	30.01	762.2	44.3	6.8	78	1	2	2	.....	4	7	.....	3	11	3842	6183	6	2.12	53.8
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.33	745.0	29.99	761.7	47.0	8.3	84	5	4	1	2	3	5	7	3	.....	7191	11573	5	1.52	38.6
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.66	753 4	30.02	762.5	52.9	11.6	78	4	1	4	1	10	3	3	1	6282	10110	7	6.64	168.7
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.36	745.7	30.02	762.5	50.7	10.4	76	3	2	2	2	7	5	3	5	1	7411	11927	6	2.98	75.7
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.41	747.0	30.01	762.2	53.3	11.8	80	3	4	1	5	5	7	.....	5	.....	8323	13394	6	2.10	53.3
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	30.01	762.2	46.5	8.1	80	6	4	2	.....	8	3	3	1	3	6000	9656	7	1.47	37.3
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.82	732.0	30.00	762.0	44.0	6.7	82	5	4	2	2	2	7	2	1	5	6331	10189	6	1.77	45.0
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.24	717.3	.....	.....	37.8	3.2	81	1	12	.....	2	.....	13	.....	1	1	8063	12976	4	3.02	91.9
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28 56	725.4	30.01	762 2	36.7	2.6	83	3	1	1	.....	.....	11	2	1	5	7792	12540	5	3.52	89.4
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.63	727.2	29.98	761.5	39.6	4.2	86	.....	10	1	2	3	6	2	2	4	7908	12726	5	5.12	130.0
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.93	734 8	30.01	762.2	47.8	8.8	86	1	4	2	1	7	8	4	3	.....	8260	13293	5	1.78	45.2
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.23	691.6	29.95	760.7	35.8	2.1	73	7	7	.....	5	4	3	2	.....	2	10880	17509	6	1.39	35.3
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.96	735.6	30.00	762.0	37.8	3.2	84	8	2	3	.....	9	4	1	1	2	10529	16944	5	5.49	13.4
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.13	739.9	30.05	763.3	35.4	1.9	88	5	6	3	1	9	4	2	.....	.....	8162	13135	6	2.09	53.1
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.14	714 7	30.02	762.5	35.3	1.8	87	8	2	.....	2	1	6	4	2	5	6876	11066	4	1.49	37.8
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.89	708.4	30.00	762.0	34.2	1.2	86	1	5	3	.....	2	3	6	8	2	7303	11753	5	2.25	57.1
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	454	28.37	720.6	30.03	762.7	33.8	1.0	86	5	5	2	5	4	4	2	2	1	10476*d*	16859*d*	6	0.85	21.6
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.06	687.3	29.98	761.5	37.0	2.8	66	1	.....	2	13	6	5	1	2	.....	8397	13514	3	1.83	46.5
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.12	688.8	29.98	761.5	35.7	2.1	76	2	1	3	2	10	2	3	3	3	4366	7026	4	2.01	51.1
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.73	678.9	29.91	759.7	36.6	2.6	78	5	2	5	3	1	11	2	.....	1	5852	9418	5	1.98	50.3
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.44	646.2	29.94	760.5	32.5	0.3	63	10	4	5	2	1	5	3	.....	.....	8180	13164	4	1.18	30.0
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.27	667.2	29.95	760.7	37.3	2.9	66	2	1	14	2	2	2	.....	6	1	5412	8710	4	2.30	58.4
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.73	653.5	29.94	760.5	35.5	1.9	73	1	4	4	16	4	.....	.....	1	.....	6023	9693	6	2.69	68.3
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.78	705.6	29.99	761.7	34.5	1.4	80	5	2	5	.....	4	7	3	4	.....	7147	11503	3	0.86	21.8
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.27	641.8	29.96	761.0	36.0	2.2	79	.....	.....	.....	.....	10	3	1	.....	6	10	2729	4392	4	6.72	170.7
Cheyenne *a*	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	23.87	606.3	29.88	758.9	30.6	0.8	72	6	6	3	7	6	1	.....	.....	.....	8477	13642	6	1.14	29.0
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.00	685.8	29.94	760.5	39.7	4.3	84	2	2	7	2	1	4	10	1	1	7958	12807	6	2.09	53.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for April, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.	° ′	°																									
Middle slope.																											
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.60	447.0	29.87	758.7	9.1	−12.7	90	.....	12	11	3	2	1	.....	1	.....	14950	24059	3	6.33	160.8
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.48	723.4	29.95	760.7	43.4	6.3	85	4	3	3	1	3	7	3	4	2	8359	13452	5	3.39	86.1
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.64	625.8	29.90	759.4	36.3	2.4	76	9	2	4	4	10	.....	.....	.....	1	6262	10078	6	2.79	70.9
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	25.99	660.1	29.92	760.0	37.6	3.1	83	1	4	9	3	2	1	7	3	.....	7532	12121	4	2.64	67.1
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.34	694.4	29.96	761.0	41.8	5.4	84	6	6	2	1	5	7	1	.....	2	10997	17698	4	1.90	48.3
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.20	690.9	29.96	761.0	43.9	6.6	77	1	9	.....	3	4	8	3	1	1	11106	17873	4	2.44	62.0
Southern slope.																											
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.75	730.2	29.96	761.0	49.8	9.9	78	9	2	.....	.....	10	1	3	4	1	9965	16037	5	1.60	40.6
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.17	715.5	29.99	761.7	52.6	11.4	77	4	3	.....	4	9	8	1	.....	1	8783	14135	4	1.67	42.4
Fort Stockton	N. 30 53	W. 102 53	5.08 a.m.	3004	916	26.92	683.8	29.91	759.7	51.0	10.6	63	1	1	.....	5	8	12	1	1	1	9521	15322	3	0.18	4.6
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.11	637.8	29.86	758.4	48.2	9.0	52	.....	3	4	11	2	.....	3	3	4	5893	9484	2	0.10	2.5
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	23.88	606.5	.....	.....	37.1	2.8	63	.....	12	7	2	1	7	1	.....	.....	7976	12836	2	1.50	38.1
Southern plateau.																											
Keeler	N. 36 35	W. 117 50	4.09 a.m	3622	1104	26.20	665.5	.....	.....	47.9	8.8	56	8	.....	.....	.....	.....	5	5	9	3	6375	10259	1	0.40	10.2
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.17	588.5	29.92	760.0	36.5	2.5	65	4	1	2	2	3	8	2	7	1	7067	11373	3	1.33	33.8
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.16	689.9	29.86	758.4	42.0	5.6	63	5	1	4	5	6	2	5	1	1	3814	6138	2	0.24	6.1
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	24.96	634.0	29.86	758.4	36.8	2.7	67	3	.....	1	5	8	3	3	7	.....	6329	10185	2	0.91	23.1
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.16	639.1	29.86	758.4	44.6	7.0	47	7	4	3	2	4	2	5	3	.....	5806	9344	1	0.30	7.6
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.62	625.3	29.87	758.7	36.3	2.4	82	2	2	2	7	1	1	1	13	6027	9699	1	1.18	30.0
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.74	755.4	29.86	758.4	56.0	13.3	72	2	6	3	2	6	1	2	4	4	5765	9278	0	0.31	7.9
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.18	665.0	29.89	759.2	50.0	10.0	45	.....	2	10	1	.....	1	4	3	3	4665	7507	2	Inap.	Inap.
Middle plateau.																											
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.40	594.3	.....	.....	30.4	−0.9	82	2	2	4	16	1	1	1	3	.....	7457	12001	7	1.24	31.5
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.51	647.9	29.87	758.7	41.9	5.5	72	3	3	.....	1	2	12	6	3	.....	4319	6951	6	4.43	112.5
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.58	598.9	.....	.....	35.1	1.7	68	3	8	2	15	... ...	.....	.....	2	.....	9111	14662	5	0.15	3.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.54	648.7	29.94	760.5	34.9	1.6	65	1	.....	.....	14	.....	1	2	10	2	7318	11776	4	1.37	34.8
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.21	614 9	29.96	761.0	35.1	1.7	71	1	.....	1	6	6	7	8	.....	1	5427	8734	6	3.14	79.8
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.29	612 4	.....	.....	35.2	1.8	69	3	4	10	7	6	.....	.....	.....	.....	4086	6576	6	2.20	55.9
Northern plateau.																											
Boise City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.09	668.1	29.93	760.2	39.8	4.3	78	3	7	2	.....	1	9	2	2	4	4556	7332	5	2.43	61.7
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.88	708.1	29.96	761.0	39.2	4.0	75	1	1	6	7	2	1	3	4	5	3875	6236	4	1.18	30.0
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.86	733.0	.....	.....	45.0	7.2	66	.....	.....	1	7	17	5	.....	.....	.....	5185	8344	5	1.66	42.2
N. Pac. coast reg'n																											
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.73	755.1	29.93	760.2	45.9	7.7	88	2	.....	9	9	6	2	1	.....	1	7101	11428	7	5.44	138.2
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.92	760.0	29.98	761.5	40.7	4.8	91	.. ...	.....	.....	4	20	3	1	1	.....	3071	4942	7	4.04	102.6
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.92	760.0	29.94	760.5	39.1	3.9	94	.....	.....	.....	.....	29	.....	.....	.....	1	3189	5132	6	2.67	67.8
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.83	757 7	29.93	760.2	44.6	7.0	87	1	3	5	3	3	8	7	.....	.....	8405	13526	7	7.04	178.8
Portland	N. 45 32	W. 122 43	3.49 a.m.	80	24	29.89	759.2	29.98	761.5	43.7	6.5	88	1	3	.....	1	13	5	1	.....	6	4018	6466	6	3.16	80.3
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.43	747.5	29.99	761.7	42.3	5.7	86	1	1	1	2	2	.....	2	3	18	2114	3402	6	4.98	126.5
Mid. Pac. coast reg																											
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.29	744.0	29.97	761.2	44.7	7.1	88	10	8	1	.....	3	7	.....	.....	1	15527	24988	6	5.43	137.9
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.61	752.1	29.95	760.7	50.5	10.3	82	5	7	.....	3	6	6	....	2	1	6290	10123	5	4.12	104.6
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.90	759.4	29.95	760.7	49.6	9.8	88	2	2	1	4	8	10	1	.....	2	5725	9213	3	4.08	103.6
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.62	760.0	29.97	761.2	51.6	10.9	80	4	2	6	10	5	2	.....	1	.....	7280	11716	6	5.28	134.1
S. Pac. coast reg'n.																											
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.62	752.3	29.96	761.0	50.7	10.4	90	2	.....	7	.....	2	4	6	9	.....	4528	7287	5	3.32	84.3
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.92	760.0	29.96	761.0	53.2	11.8	84	4	10	2	3	4	.....	3	4	.....	4999	8045	6	1.95	49.5
Alaska stations.																											
Fort Alexander	N. 58 57	W. 158 18	1.27 a.m.	18	5	29.84	757.9	29.96	761.0	25.1	−3.8	89	.....	.....	2	7	1	1	10	9	.....	.....	.....	5	1.31	33.3
Ft. St. Michael's	N. 63 48	W. 161 48	1.13 a.m.	30	9	29.92	760 0	30.00	762.0	16.8	−8.4	87	9	.....	1	3	3	1	6	6	1	8950	14403	6	0.12	3.0
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.76	755.9	29.86	758.4	38.3	3.5	77	.....	3	5	5	.....	4	7	1	5	7148	11503	7	7.67	194.8
Unalashka	N 53 53	W. 166 32	0.54 a.m.	13	4	29.71	754.6	29.75	755.6	34.8	1.6	76	2	6	3	6	1	7	3	2	.....	9762	15710	7	14.09	357.9
Sub-Series.																											
Behring's Island	N. 55 12	E. 165 55	11.04 p.m.	20	6	29.61	752.1	29.71	754.6	29.9	−1.2	93	6	4	2	7	7	1	.....	3	.....	11124	17902	8	1.25	31.7
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.00	762.0	29.92	760.0	79.2	26.2	85	.....	.....	.....	.....	.....	6	24	.....	.....	.....	.....	6	6.03	153.2
Rivas n	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.7	25.4	79	1	1	.....	1	1	3	2	7	.....	.....	.....	5	Inap.	Inap.
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.84	757.9	29.86	758.4	64.4	18.0	.....	3	3	2	6	2	2	.....	3	9	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR APRIL, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.87	758.7	79.6	26.4	1	.....	.....	.....	.....	.....	1	28	.....	.....	4.8
12.5 27.5	29.90	759.4	79.6	26.4	2	.....	.....	.....	.....	.....	.....	28	.....	.....	4.6
12.5 32.5	29.94	760.5	79.9	26.6	1	.....	.....	.....	.....	.....	10	15	.....	4	4.2
12.5 37.5	29.97	761.2	80.1	26.7	1	.....	.....	.....	.....	.....	15	8	.....	6	3.6
12.5 42.5	29.97	761.2	80.1	26.7	1	.....	.....	.....	.....	1	15	7	.....	6	3.9
12.5 47.5	29.98	761.5	79.7	26.5	.....	.....	.....	.....	.....	.....	19	5	.....	6	4.1
12.5 52.5	29.95	760.7	80.0	26.7	.....	.....	.....	1	2	24	2	.....	.....	1	4.1
17.5 22.5	29.91	759.7	76.7	24.8	5	.....	.....	.....	.....	.....	6	19	.....	.....	4.5
17.5 27.5	29.94	760.5	76.9	24.9	11	.....	.....	.....	.....	.....	1	18	.....	.....	4.3
17.5 32.5	29.99	761.7	77.4	25.2	2	.....	.....	.....	.....	.....	6	16	.....	6	4.0
17.5 37.5	30.02	762.5	77.5	25.3	2	1	.....	.....	.....	.....	14	7	.....	6	3.9
17.5 42.5	30.04	763.0	77.5	25.3	1	1	.....	.....	.....	1	14	7	1	5	4.0
17.5 47.5	30.04	763.0	77.8	25.4	4	.....	.....	.....	.....	.....	20	1	.....	5	4.0
17.5 52.5	29.98	761.5	78.8	26.0	2	.....	.....	.....	4	2	20	1	.....	1	4.2
17.5 57.5	29.96	761.0	80.4	26.9	1	1	1	.....	2	5	18	2	.....	.....	4.1
22.5 22.5	29.98	761.5	73.0	22.8	4	3	2	.....	.....	.....	7	12	1	1	3.9
22.5 27.5	30.01	762.2	73.8	23.2	4	4	3	.....	.....	.....	5	14	.....	.....	3.9
22.5 32.5	30.03	762.7	74.4	23.6	3	1	3	.....	.....	.....	7	13	.....	3	3.6
22.5 37.5	30.06	763.5	74.8	23.8	2	1	3	2	.....	2	8	10	.....	2	4.0
22.5 42.5	30.08	764.0	74.9	23.8	3	3	2	.....	1	4	12	4	.....	1	4.1
22.5 47.5	30.04	763.0	75.1	23.9	3	3	2	.....	4	2	13	3	.....	.....	4.2
22.5 52.5	30.03	762.7	75.8	24.3	2	1	1	4	2	9	9	1	.....	1	4.1
22.5 57.5	30.00	762.0	76.8	24.9	2	1	1	1	5	12	7	1	.....	.....	4.2
22.5 62.5	29.98	761.5	77.0	25.0	1	.....	1	4	2	9	11	2	.....	.....	4.4
22.5 67.5	29.96	761.0	76.7	24.8	2	1	.....	3	4	6	13	1	.....	.....	4.3
22.5 72.5	29.93	760.2	76.0	24.4	4	.....	2	2	4	4	11	3	.....	.....	4.1
27.5 22.5	30.02	762.5	69.3	20.7	3	2	7	1	.....	1	5	11	.....	.....	4.1
27.5 27.5	30.04	763.0	70.5	21.4	2	3	5	1	.....	3	6	10	.....	.....	4.1
27.5 32.5	30.06	763.5	71.1	21.7	3	2	7	1	1	1	8	7	.....	.....	4.0
27.5 37.5	30.05	763.3	71.6	22.0	2	2	6	4	1	.....	10	5	.....	.....	4.2
27.5 42.5	30.05	763.3	71.7	22.1	2	5	3	4	1	4	9	2	.....	.....	4.3
27.5 47.5	30.04	763.0	72.2	22.3	5	3	1	6	.....	8	5	2	.....	.....	4.2
27.5 52.5	30.05	763.3	72.2	22.3	3	1	4	2	.....	8	7	4	.....	1	4.4
27.5 57.5	30.05	763.3	72.5	22.5	5	2	2	1	2	10	5	2	.....	1	4.6
27.5 62.5	30.02	762.5	72.2	22.3	4	2	.....	3	1	11	6	3	.....	.....	4.7
27.5 67.5	30.00	762.0	72.4	22.4	5	2	1	1	2	8	7	4	.....	.....	4.8
27.5 72.5	30.00	762.0	71.7	22.1	3	.....	1	3	4	3	9	7	.....	.....	4.8
27.5 77.5	29.99	761.7	70.0	21.1	2	1	2	1	3	1	12	8	.....	.....	4.8
32.5 12.5	29.96	761.0	65.9	18.8	4	2	4	7	.....	.....	2	11	.....	.....	4.2
32.5 17.5	30.00	762.0	65.2	18.4	5	.....	7	2	1	.....	1	13	1	.....	3.6
32.5 22.5	30.04	763.0	66.5	19.2	3	.....	6	3	1	1	6	10	.....	.....	4.4
32.5 27.5	30.06	763.5	67.2	19.6	4	1	7	2	4	1	6	5	.....	.....	4.6
32.5 32.5	30.06	763.5	68.3	20.2	2	1	7	4	4	2	7	3	.....	.....	4.7
32.5 37.5	30.04	763.0	68.1	20.0	1	2	8	5	1	5	5	3	.....	.....	4.7
32.5 42.5	30.03	762.7	68.1	20.0	4	3	6	5	1	8	1	2	.....	.....	4.6
32.5 47.5	30.05	763.3	67.4	19.7	6	4	3	3	5	4	2	2	.....	1	4.8
32.5 52.5	30.06	763.5	67.1	19.5	7	1	5	.....	4	4	1	7	1	.....	4.6
32.5 57.5	30.04	763.0	67.5	19.7	4	4	2	2	4	4	3	7	.....	.....	4.8
32.5 62.5	30.08	764.0	67.5	19.7	3	7	.....	3	2	7	4	4	.....	.....	4.5
32.5 67.5	30.08	764.0	67.5	19.7	3	7	1	2	3	4	8	2	.....	.....	4.6
32.5 72.5	30.06	763.5	66.3	19.1	2	1	5	4	2	3	7	5	1	.....	4.7
32.5 77.5	30.06	763.5	62.3	16.8	2	3	3	7	1	1	6	7	.....	.....	4.1
37.5 12.5	29.95	760.7	62.3	16.8	9	5	3	6	1	.....	1	5	.....	.....	4.8
37.5 17.5	30.01	762.2	62.3	16.8	7	4	4	3	2	.....	2	8	.....	.....	4.6
37.5 22.5	30.03	762.7	62.7	17.1	8	3	6	4	1	1	5	2	.....	.....	4.4
37.5 27.5	30.04	763.0	63.7	17.6	5	4	6	3	3	3	2	3	1	.....	4.2
37.5 32.5	30.03	762.7	64.7	18.2	1	6	5	6	6	2	2	1	1	.....	4.7
37.5 37.5	30.01	762.2	64.2	17.9	4	6	1	11	5	.....	2	1	.....	.....	4.9
37.5 42.5	29.99	761.7	62.6	17.0	6	8	3	4	7	1	1	.....	.....	.....	5.2
37.5 47.5	30.01	762.2	60.4	15.8	10	6	1	6	3	2	2	.....	.....	.....	5.3
37.5 52.5	30.04	763.0	59.9	15.5	6	5	6	3	3	.....	.....	6	1	.....	5.3
37.5 57.5	30.08	764.0	59.7	15.4	5	8	3	2	4	1	.....	6	1	.....	4.9
37.5 62.5	30.11	764.8	59.2	15.1	5	6	2	5	2	1	6	3	.....	.....	5.0
37.5 67.5	30.12	765.0	58.4	14.7	5	3	3	3	3	5	3	5	.....	.....	4.5
37.5 72.5	30.11	764.8	55.6	13.1	5	2	3	2	2	3	4	7	2	.....	3.9
42.5 12.5	29.91	759.7	58.7	14.8	4	5	4	3	4	1	2	7	.....	.....	4.8
42.5 17.5	29.97	761.2	58.8	14.9	4	9	2	3	2	2	7	1	.....	.....	4.7
42.5 22.5	30.00	762.0	59.9	15.5	1	9	5	2	4	3	4	2	.....	.....	4.4
42.5 27.5	30.00	762.0	60.1	15.6	.....	4	7	4	4	3	4	4	.....	.....	4.6
42.5 32.5	29.95	760.7	60.8	16.0	.....	6	4	7	2	6	3	2	.....	.....	4.9
42.5 37.5	29.92	760.0	59.5	15.3	1	4	8	6	4	4	3	.....	.....	.....	5.3
42.5 42.5	29.90	759.4	56.0	13.3	6	4	5	9	2	.....	1	3	.....	.....	5.1
42.5 47.5	29.94	760.5	48.3	9.1	10	6	2	6	4	.....	1	1	.....	.....	5.3
42.5 52.5	29.97	761.2	44.7	7.1	10	6	5	4	3	.....	.....	2	.....	.....	4.5
42.5 57.5	30.05	763.3	47.7	8.7	6	11	4	3	2	1	.....	2	1	.....	4.5
42.5 62.5	30.10	764.5	45.6	7.6	4	9	4	3	2	2	2	3	1	.....	4.1
42.5 67.5	30.14	765.5	43.2	6.2	8	5	3	3	3	3	2	2	1	.....	3.4
47.5 12.5	29.91	759.7	55.0	12.8	2	4	6	2	2	3	5	6	.....	.....	5.0
47.5 17.5	29.92	760.0	55.7	13.2	1	7	4	1	3	2	7	4	1	.....	4.9
47.5 22.5	29.94	760.5	56.1	13.4	2	6	6	1	5	1	4	5	.....	.....	4.9
47.5 27.5	29.95	760.7	56.4	13.6	.....	2	7	4	4	4	8	1	.....	.....	4.8
47.5 32.5	29.91	759.7	56.0	13.3	.....	1	9	4	4	7	4	1	.....	.....	5.1
47.5 37.5	29.87	758.7	54.4	12.4	.....	1	8	5	2	10	3	1	.....	.....	5.1
47.5 42.5	29.81	757.2	51.0	10.6	4	5	4	5	3	3	4	2	.....	.....	5.1
47.5 47.5	29.85	758.2	43.2	6.2	5	4	5	7	.....	2	1	5	.....	1	5.0
52.5 12.5	29.89	759.2	50.9	10.5	2	4	6	3	2	4	4	5	.....	.....	5.6
52.5 17.5	29.88	758.9	50.6	10.3	.....	5	5	2	3	6	4	5	.....	.....	5.2
52.5 22.5	29.89	759.2	50.7	10.4	1	3	7	2	3	4	5	5	.....	.....	5.1
52.5 27.5	29.87	758.7	50.4	10.2	1	3	5	4	4	8	1	4	.....	.....	4.9
52.5 32.5	29.86	758.4	50.0	10.0	.....	3	7	2	8	5	1	1	.....	3	5.1
52.5 37.5	29.88	758.9	45.0	7.2	.....	3	4	2	3	6	4	.....	.....	8	5.8
52.5 42.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
52.5 47.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 12.5	29.86	758.4	46.6	8.1	2	3	4	4	3	5	5	4	.....	.....	4.8
57.5 17.5	29.88	758.9	45.6	7.6	3	5	2	3	3	5	5	3	1	.....	5.0
57.5 22.5	29.87	758.7	44.8	7.1	3	4	3	3	5	6	2	4	.....	.....	5.1
57.5 27.5	29.86	758.4	44.2	6.8	1	6	.....	3	4	7	3	3	1	2	5.3
57.5 32.5	29.85	758.2	44.7	7.1	1	3	2	1	2	5	2	2	.....	12	5.6
57.5 37.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 42.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
57.5 47.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

REVIEW.

INTERNATIONAL METEOROLOGY FOR APRIL, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of April, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Reports from European and Asiatic Russia have not been received, and data from the territory covered by these reports are necessarily omitted.

The area of lowest mean pressure is located over the interior of British India, with reported barometric minimum 29.58 (751.3) at Bellary; extending northward, this area includes mean reading 29.60 (751.8) at Nagpur. Over Behring Sea mean pressures 29.71 (754.6) and 29.75 (755.6) are shown at Behring's Island and Unalashka, Aleutian Islands, respectively. Two areas of low mean pressure, bounded by isobars of 29.90 (759.4), appear, one occupying the north Atlantic Ocean, with a southern limit extending from the southern edge of the Banks of Newfoundland east-northeast over the British Isles and thence northeast along the west coast of Norway, with recorded barometric minima 29.85 (758.2) at Stykkisholm, Iceland, and Thorshavn, Färöe Islands, and the other extending over the west-central and southwestern portions of the North American continent, with reported mean barometric minimum 29.83 (757.7) at Fort Thomas, Ariz. On the Pacific coast of North America, north of the fifty-second parallel, and eastward to the one hundred and tenth meridian, the mean pressure ranges below 29.90 (759.4). Off the west coast of Africa, south of the twentieth parallel, the mean pressure ranges below 29.90 (759.4).

An area of high mean pressure, with values above 30.10 (764.5), occupies the northeastern portion of the United States, Canada, and the ocean south of Nova Scotia to the thirty-fifth parallel, the highest barometric mean, 30.16 (766.1), occurring at Rockliffe, Ontario. A second area of high mean pressure apparently occupies central Asia, although an absence of reports will not admit of outlining its boundaries or of determining the mean values they include. The southeastern limit of this area of high mean pressure extends over the northwest portion of Corea, with reported mean 30.10 (764.5) at Che-mul-po, Corea. Over Europe, east of the twentieth meridian and over the north Atlantic Ocean west of the seventeenth meridian, and between N. 20° and N. 40°, areas of relatively high mean pressure, with means ranging above 30.00 (762.0), are charted.

In the United States the mean pressure is greatest over New England, the lower lake region, and the middle Atlantic states, the highest barometric mean, 30.13 (765.3), occurring at Albany, N. Y., and New London, Conn. Westward and southwestward of the districts named the mean pressure decreases until reaching the Pacific coast region, where a slight rise in the barometric means is noted. The area of minimum pressure occupies the middle and southern Rocky Mountain districts, where the means are generally below 29.90 (759.4), there being a small area, comprising portions of Arizona and New Mexico, enclosed by the isobar for 29.85 (758.2). In the British Possessions in North America the barometric means range from 30.16 (766.1) at Rockliffe, Ontario, to below 29.90 (759.4) west of the one hundred and tenth meridian.

Over the north Atlantic Ocean a barometric gradient of 0.29 of an inch is shown between the coast of the United States in latitude 41° and Iceland and the Färöe Islands. Over that portion of Europe from which reports have been received the mean pressure ranges from 30.10 (764.5) at Memel, Germany, to 29.89 (759.2) at Gjæsvær, Norway. Over western, central, and southwestern Europe the barometric means range between 29.90 (759.4) and 30.00 (762.0). Over British India the barometric gradient is 0.16 of an inch between Bellary and Chittagong. Off the eastern coast of Asia the mean pressure ranges from about 29.80 (756.9) on the coast of Anam, and 29.71 (754.6) at Behring's Island, to 30.10 (764.5) on the west coast of Corea.

Compared with the chart of the preceding month, March, 1886, the mean pressure at stations along the Mississippi from the Gulf to Minnesota has changed but slightly. To the eastward of the Mississippi a marked increase in the mean pressure is shown, while to the westward a decrease nearly as great occurred. In Canada there has been an increase in mean pressure of from .25 to .30 of an inch in the Maritime Provinces; in the Lake region the increase amounts to about .10 of an inch, while in the Saskatchewan Valley there has been a decrease in mean pressure of about .10 of an inch.

Over the north Atlantic Ocean the area of low mean pressure which was central in March in about N. 50°, W. 40° has extended over the entire northern portion of the ocean, with an increase in reported barometric minimum of about .35 of an inch, while within the area of high over the southern portion of the ocean there has been a decrease in the barometric maximum of about .10 of an inch. In the vicinity of the West Indies the changes in mean pressure have been slight.

In Europe there has been an increase in mean pressure of about .10 of an inch over northern Scandinavia; along the west coast of Norway and over southern Sweden the decrease averages .10 of an inch; over the British Isles the changes have been slight; over Germany and France the mean pressure is .10 to .15 of an inch lower than in March; over Spain and Portugal the decrease ranges from .10 to .15 of an inch; over Austria there has been a decrease of nearly .10 of an inch, while over Italy the means are about .05 lower than for the preceding month. Over British India there has been a general decrease in mean pressure of about .10 of an inch. In the Japanese Islands there has been an increase in mean pressure of about .05 of an inch over Yesso and about .10 over Hondo, Kiu-siu, and the Yellow Sea. At Behring's Island the mean pressure is .17 of an inch lower than in March, while over Alaska the increase in mean pressure ranges from .13 to .18 of an inch.

Compared with the corresponding month of previous years, the mean pressure in the United States was above the normal over the eastern half of the country, the excess amounting to .20 of an inch or more at the most easterly stations, while over the western part the deficiencies nowhere exceed .07 of an inch. In Canada the average pressure during the month was above the normal by from .10 to .20 of an inch in Ontario and from .20 to .25 of an inch in Quebec and the Maritime Provinces. In the British Isles the mean pressure, when compared with the averages for the corresponding month for nine years, averaged .09 of an inch above the normal. Over the balance of Europe, west and south of Russia, the mean pressure was everywhere in excess of the normal, except in Norway, by amounts ranging from .01 in Sweden to .15 of an inch in Austria. In British India the mean pressure was normal. At Tokei, Japan, the mean pressure corresponded with the April normal for eight years.

In the United States the mean temperature was above the normal over the northern districts east of the Rocky Mountains, the departures being greatest in the extreme northwest, where they ranged from 6° to 8°. The temperature was below the normal over the southern districts, the departures being most marked in Florida. In Canada the average temperature was above the normal for the month by amounts ranging from 2° to 4° in the Maritime Provinces; in Quebec, from 1°.8 at Father Point to 6°.5 at Quebec; in Ontario, from 3°.2 at Rockliffe to 6°.3 at Saugeen; and at Winnipeg it amounted to 8°.1.

In the British Isles there was a slight deficit in mean temperature when compared with the average for nine years. Over the continent of Europe the mean temperature was generally above the normal, except in Norway and Spain, where

the mean averaged nearly 2° lower. The greatest departure above the normal (3°.8) occurred in Germany. In British India the mean temperature was slightly above the normal. At Tokei, Japan, the mean temperature was one degree above the normal for the month.

The following table shows the mean pressure and mean temperature for April, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Apr. mean of 9 (1877-'86) years.	Apr., 1886.	Departure.	Apr. mean of 9 (1877-'86) years.	Apr., 1886.	Departure.
				°	°	°
Austro-Hungary	29.82	29.97	+ 0.15	55.9	59.5	+ 3.6
British Isles	29.85	29.94	+ 0.09	50.1	49.3	— 0.8
Denmark	29.93	29.96	+ 0.03	45.9	46.0	+ 0.1
France	29.84	29.94	+ 0.10	56.8	58.5	+ 1.7
Germany	29.90	29.98	+ 0.08	51.1	54.9	+ 3.8
India	29.66	29.66	normal.	90.2	91.2	+ 1.0
Italy	29.83	29.95	+ 0.12	61.1	61.5	+ 0.4
Norway	29.97	29.92	— 0.05	43.9	41.0	— 2.9
Spain*	29.89	29.94	+ 0.05	59.5	57.8	— 1.7
Sweden	29.98	29.99	+ 0.01	40.0	41.8	+ 1.8

* Means for eight years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of April, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Apr. mean of 9 (1877-'86) years.	Apr., 1886.	Departure.	Apr. mean of 9 (1877-'86) years.	Apr., 1886.	Departure.
				°	°	°
Athens, Greece	29.87	30.00	+ 0.13	67.1	65.8	— 1.3
Beirut, Turkey in Asia	29.88	29.93	+ 0.05	69.6	67.5	— 2.1
Bridgetown, Barbadoes	29.95	29.89	— 0.06	82.7	84.9	+ 2.2
Cape Town, Cape of Good Hope				70.9	73.4	+ 2.5
Fort Napier, Natal S. Africa*	29.88	29.94	+ 0.06	75.2	76.5	+ 1.3
Freetown, Sierra Leone	29.81	29.77	— 0.04	86.3	81.4	— 4.9
Funchal, Madeira Islands*	30.09	29.99	— 0.10	64.6	64.8	+ 0.2
Gibraltar	29.97	29.92	— 0.05	64.4	62.3	— 2.1
Havana, Cuba, W. I.	29.97	29.95	— 0.02	74.7	69.2	— 5.5
Malta, Mediterranean Sea	29.84	29.94	+ 0.10	63.4	60.9	— 2.5
Melbourne, New South Wales	30.12	30.05	— 0.07	57.6	57.4	— 0.2
Mauritius, Indian Ocean	29.92	29.84	— 0.08	79.1	79.5	+ 0.4
Mexico, Mexico*		30.05			53.2	
Nassau, Bahamas, W. I.	30.02	29.95	— 0.07	76.2	73.2	— 3.0
Paramaribo, D. Guiana, S. A	29.93	29.92	— 0.01	79.7	79.2	— 0.5
Ponta Delgada, Azores	30.10	30.05	— 0.05	63.2	63.1	— 0.1
Swanbister, Orkneys	29.92	29.88	— 0.04	45.0	45.5	+ 0.5
San Juan de Puerto Rico, W. I	29.98	29.93	— 0.05	77.0	78.3	+ 1.3
Stykkisholm, Iceland	29.84	29.85	+ 0.01	33.9	31.1	— 2.8
Thorshavn, Färöe Islands	29.91	29.85	— 0.06	44.1	43.9	— 0.2
Tokio, Japan*	30.03	30.03	normal.	52.6	53.6	+ 1.0
Zi-Ka-Wei, China	30.00	30.02	+ 0.02	54.0	53.2	— 0.8

* Means for eight years only.

Reports from Russian stations missing.

The following are extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Nagpur, India	102.0	38.9	Fort Saint Michael's, Alaska	16.8	— 8.4
Bridgetown, Barbadoes	84.9	29.4	Behring's Island, Behring Sea	29.9	— 1.2
Manila, Philippine Islands	82.8	28.2	Q'Appelle, Northwest Ter	30.1	— 1.1
Freetown, Sierra Leone	81.4	27.4	Fort Bridger, Wyoming	30.4	— 0.9
Penang, Malay Peninsula	80.7	27.1	Stykkisholm, Iceland	31.1	— 0.5
Mauritius, Indian Ocean	79.5	26.4	Gjæsvær, Norway	32.0	0.0

In the United States the prevailing winds were mostly from the northeast in the Lake region, and along the Atlantic coast south of Boston; in the Gulf States and southern half of the Mississippi Valley they were generally from the southeast; in the north Pacific coast region they were southerly, while along the coast of California they were northwesterly. In the Rocky Mountain districts they were variable. In Canada the winds were mostly northerly in the Maritime Provinces; along the Saint Lawrence River they were from south to west; in the Lake region they were variable, while to the westward of the ninetieth meridian southerly winds prevailed.

Over the north Atlantic Ocean south of the thirtieth parallel the prevailing direction was easterly, while in more northern latitudes the wind-directions were unusually diversified, owing to the relatively slight mean barometric gradient which existed. In the British Isles the winds were generally variable; over Scandinavia they were mostly from south to west, while over the balance of Europe they were variable. Over British India the prevailing winds were mostly westerly. Over the Japanese Islands the winds were generally light and variable.

In the United States the precipitation was in excess of the normal over the middle Atlantic states, Lake region, and generally in all districts west of the Mississippi River, with the exception of the west Gulf states and north Pacific coast. The most marked deficiencies occurred in the south Atlantic states and Tennessee, and the greatest excess occurred in the extreme northwest and middle Pacific coast region. In Canada the rainfall was slightly in excess of the average in Manitoba and in the southwest and central districts of Ontario. In all other parts it was largely in defect, there being only about one-tenth of the average for April recorded in some localities in Nova Scotia and New Brunswick. In the British Isles the rainfall was rather below the average for twenty years at most of the northeastern and eastern stations, and also along the south coast of Ireland, but was somewhat in excess on the northwestern coasts.

In the United States the most noteworthy meteorological features of the month were the severe storms in the Lake region and on the New England and middle Atlantic coasts accompanying low area number ii, and the unusual high tides along those coasts during the prevalence of this depression. The high mean pressure over New England and the middle Atlantic states is worthy of note, the departures above the normal in these districts ranging from .20 to .26 of an inch. Among the more remarkable features of the month in Canada were the storm of the 6th and the almost unprecedented period of fine, warm weather in western Canada between the 13th and 23d.

Over the north Atlantic Ocean the storms exhibited very great diversity in their direction of movement, and their rate of progress was exceedingly slow. The most violent storm of the month was the one which passed northeast to the westward of the British Isles during the 1st and 2d. In the British Isles the weather was somewhat changeable, the middle portion of the month being the only period free from storms, and in which the weather was fine and dry.

TRACKS OF AREAS OF LOW PRESSURE FOR APRIL, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during April, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-three areas of low pressure are shown, of which seven are traced over the North American continent, nine over the north Atlantic Ocean, seven over Europe, and ten off the eastern coast of Asia, over the Japanese Islands, Behring Sea, and the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of April during the last thirteen years is 10.6, or 3.6 greater than the number traced for April, 1886.

The areas of low pressure traced over the North American continent had their origin over, or to the westward of, the Rocky Mountain regions, and only one of the storms traced reached the Atlantic coast. They moved with a low average velocity, and their general direction was more northerly than

the mean track of storms for corresponding months of previous years.

These storms are described in detail in the MONTHLY WEATHER REVIEW for April, 1886, under the heading "Areas of low pressure."

Of the nine areas of low pressure traced over the north Atlantic Ocean, one, number x, was a continuation of a storm which traversed the North American continent; one first appeared off the south Atlantic coast of the United States; one apparently originated over the West Indies, whence it is traced to Europe; four developed over the ocean west of the fortieth meridian; one passed northeast from the fiftieth parallel to Scandinavia, and one is charted from the vicinity of the Madeira Islands to central Europe. The general course of direction of the depressions was east to northeast, and the rate of progression was, as a rule, slow.

The following are brief descriptions of the depressions traced over the north Atlantic Ocean:

Number viii was central on the 1st in N. 50°, W. 21°, with pressure ranging below 28.60 (726.4), whence it moved northeast to N. 61°, W. 9° by the 2d, with a rise of about 0.40 of an inch in central pressure. From the 3d to the 6th, inclusive, the depression was located east of Iceland, after which it advanced eastward to Scandinavia. During this period an area of high barometric pressure moved slowly eastward over the ocean to the vicinity of the Azores. Number ix appeared off the northwest coast of Ireland on the 7th, with pressure below 29.00 (736.6); thence moving slowly east of north until the 9th, the storm-centre circled south to the north coast of Scotland by the 10th, after which it passed south of east over the North Sea. The storm exhibited greatest strength on the 8th, when pressure 28.58 (725.9) was reported at Sandwick Manse, Orkney Islands.

Number x was a continuation of land depression number ii which left the American coast in N. 40° during the 7th, whence it is given a probable northeast track to Iceland by the 12th. The storm was of moderate strength after leaving the coast. Number xi appeared over mid-ocean on the 13th and 14th, after which it advanced northward and dissipated. Number xii appeared as a storm of slight energy off the western extremity of Hayti on the 13th, and moved slowly westward between Cuba and Jamaica by the 14th, after which it circled slowly north and east to N. 28°, W. 65° by the 21st, whence it is given a probable northeast track to N. 45°, W. 41° by the 23d. From this position the depression advanced eastward to the Spanish coast by the 28th, with barometric pressure ranging below 29.40 (746.7) throughout.

Number xiii is first charted in N. 35°, W. 45° under date of the 18th, whence it moved north of east to N. 43°, W. 13° by the 22d, with central pressure fluctuating between 29.30 (744.2) and 29.60 (751.8). By the 23d the centre of depression had circled northward five degrees, after which it apparently dispersed. Number xiv developed in the vicinity of the Banks of Newfoundland and passed to the southward of the Azores from the 21st to the 23d, inclusive, with a fair display of energy. Number xv originated to the southward of the Banks of Newfoundland on the 27th and pursued an irregular course over, and in the vicinity of, the Banks during the next three days. The storm was quite severe in its character and exhibited barometric pressure ranging below 29.20 (741.7) on the 30th. Number xvi was located off the coast of the United States in about N. 33° on the 29th, whence it had advanced from the southward; by the 30th the storm-centre had advanced northeast to N. 37°, W. 68°. The depression possessed marked energy on the 29th, after which it commenced to fill up.

Of the seven depressions traced over Europe, six advanced from over the ocean and one first appeared over the Mediterranean Sea. The general course of direction of the storms was northeasterly south of the fiftieth parallel, while to the northward of that latitude they moved east or southeast, except in the case of number xvii, which passed northeast after having advanced to the twentieth meridian, east.

Owing to an absence of reports from the Russian system of stations, the storm-tracks are confined to the regions west of the thirtieth meridian.

Number xvii was a depression of considerable depth which advanced east and northeast over Scandinavia during the 7th and 8th. Number xviii passed east-southeast over the North Sea during the 10th and 11th, with pressure ranging to about 29.50 (749.3), after which it passed eastward over the Baltic Sea. Number xix first appeared in the vicinity of the Madeira Islands on the 17th, with central pressure about 29.60 (751.8). From thence it moved northeast over Portugal, Spain, and southern France into Germany by the 21st, after which it apparently dissipated. This storm had barometric pressure ranging below 29.60 (751.8) during its passage over the continent. Number xx is located off the southern extremity of Italy under date of the 19th, with pressure below 29.60 (751.8); subsequent to this date the depression circled northward and united with number xix.

Number xxi was a depression of slight depth which was central over the northern portion of Finland on the 24th. Number xxii advanced from over the ocean and was central on the 27th over northern Scotland, with pressure 29.75 (755.6) over the Orkney Islands. By the 28th the storm-centre had passed to the east of Denmark with reported barometric minimum, 29.56 (750.8), at Copenhagen. From this position the depression moved southeast to the northeast slope of the Carpathian Mountains by the 30th, with a slight increase in barometric pressure. Number xxiii advanced from the ocean to the northwest coast of Spain by the 28th, on which date barometric pressure 29.43 (747.5) was reported at Santiago. Passing northeast over the Bay of Biscay the depression is traced to the northeast part of France by the 30th, where a decided increase in barometric pressure was shown.

Of the ten depressions traced off the eastern coast of Asia, over the Japanese Islands, Behring Sea, and the north Pacific Ocean five advanced from the westward or southwestward of the Japanese Islands; three first appeared east of Kamchatka, and one originated over the eastern portion of Behring Sea. Two depressions are traced from the westward of Japan, and one is continued as a land storm over the North American continent. The general course of direction of the tracks was east to northeast.

Number xxiv passed northeastward over the eastern portion of Behring Sea during the 1st and 2d, and was unaccompanied by noteworthy features. Number xxv is traced over Behring Sea from Kamchatka to the Alaska peninsula from the 3d to the 7th, inclusive. On the 3d barometric pressure 28.83 (732.3) was reported at Behring Island, after which date there was a gradual rise in barometer within the storm area. Number xxvi appeared on the 4th southwest of Corea, whence it passed northeast over the Sea of Japan, northern Hondo, and the ocean to the Aleutian Islands by the 8th without a special show of energy. Number xxvii was central on the 5th in about N. 38°, W. 132°, whence it is given a probable northeast track to the American coast in N. 45° by the 6th, after which it apparently moved eastward as land-depression number iii. Number xxviii prevailed as an area of low pressure off the east coast of Kamchatka from the 8th to the 12th, inclusive, whence it is traced eastward to the American coast in N. 50° by the 17th. This depression exhibited barometric pressure ranging below 29.20 (741.7) during a considerable portion of its course.

Number xxix is located off the southeast coast of Hondo under date of the 12th, and passed thence over the ocean beyond the region of observation. Number xxx is charted from the vicinity of Formosa along the southeast coast of Japan to the thirty-fifth parallel from the 15th to 18th, inclusive, after which it disappeared over the ocean without developing marked energy. Number xxxi first appeared east of Kamchatka in about N. 57° on the 17th, and moved southeast to the fiftieth parallel by the 19th, whence it passed east-northeast to N. 58°, W. 145° by the 22d. This depression attained greatest strength

on the 20th, when pressure 29.05 (737.9) was reported at Unalashka. Number xxxii passed northeast from the Sea of Japan to the vicinity of Behring's Island from the 24th to 28th, inclusive, from which position it moved southeast to N. 50°, W. 170° by the 30th, without evidence of marked energy. Number xxxiii advanced northeastward to the Sea of Japan by the 30th, where barometric pressure about 29.70 (754.4) was shown.

ERRATA.

In SUMMARY for March, 1886, Zi-Ka-Wei, longitude E. 21°, should be E. 121°.

In SUMMARY for January, February, and March, 1886, Bird Rocks, latitude 37°, should be 47°.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◉ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

NEW ENGLAND: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

MIDDLE ATLANTIC STATES: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

SOUTH ATLANTIC STATES: North Carolina, South Carolina, Georgia, Florida.

EASTERN GULF STATES: Georgia, Florida, Alabama, Mississippi, Louisiana.

WESTERN GULF STATES: Louisiana, Arkansas, Indian Territory, Texas.

RIO GRANDE VALLEY: Texas.

OHIO VALLEY AND TENNESSEE: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

LOWER LAKES: New York, Pennsylvania, Ohio, Michigan.

UPPER LAKES: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

UPPER MISSISSIPPI VALLEY: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

MISSOURI VALLEY: Missouri, Kansas, Nebraska, Iowa, Dakota.

EXTREME NORTHWEST: Minnesota, Dakota.

NORTHERN SLOPE: Montana, Dakota, Wyoming, Nebraska.

MIDDLE SLOPE: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

SOUTHERN SLOPE: Indian Territory, Texas, New Mexico.

SOUTHERN PLATEAU: New Mexico, Arizona, California, Nevada.

MIDDLE PLATEAU: California, Nevada, Utah, Colorado, Wyoming.

NORTHERN PLATEAU: Wyoming, Montana, Idaho, Oregon, Washington.

NORTH PACIFIC COAST: Washington, Oregon.

MIDDLE PACIFIC COAST: California.

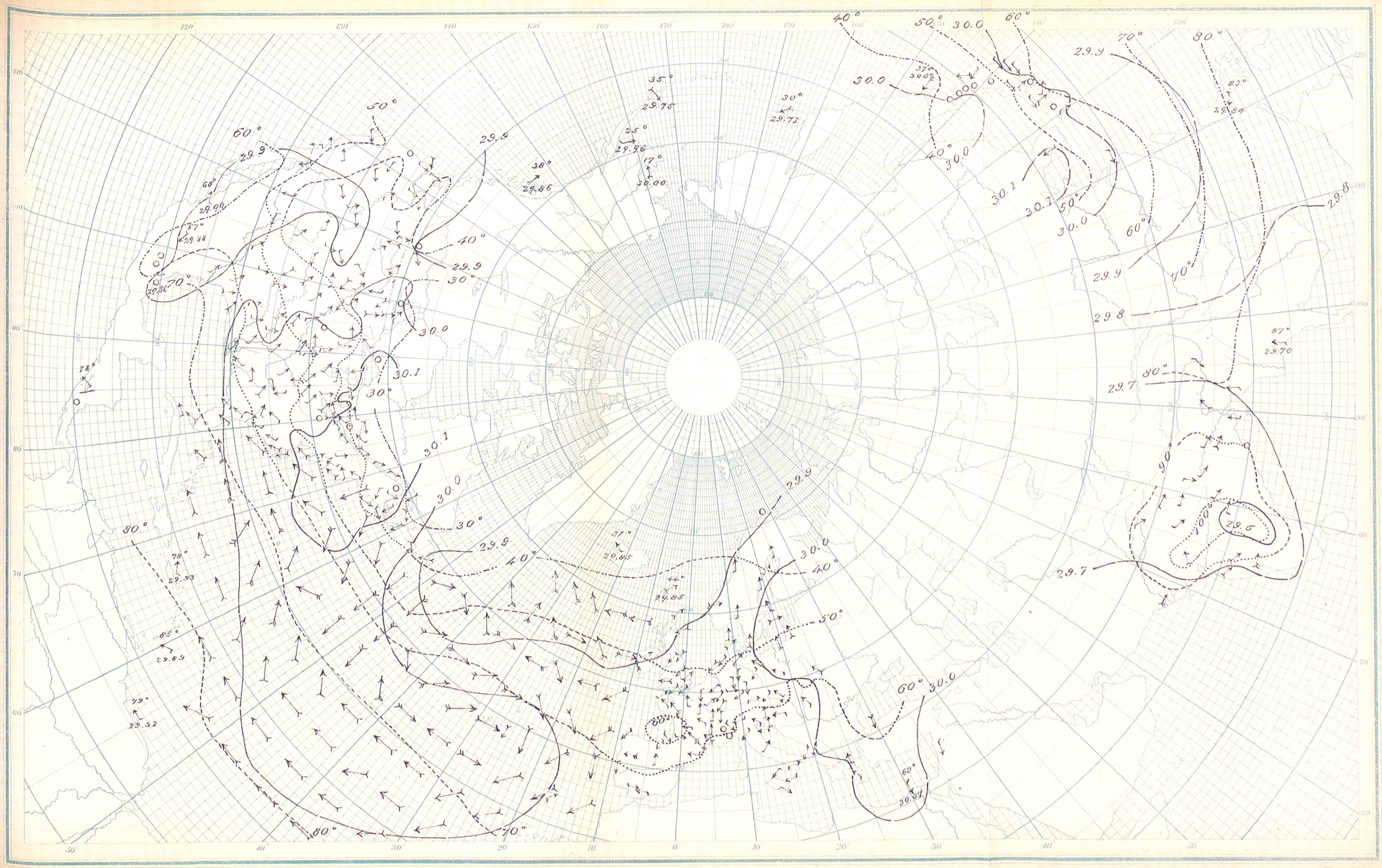
SOUTH PACIFIC COAST: California.

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

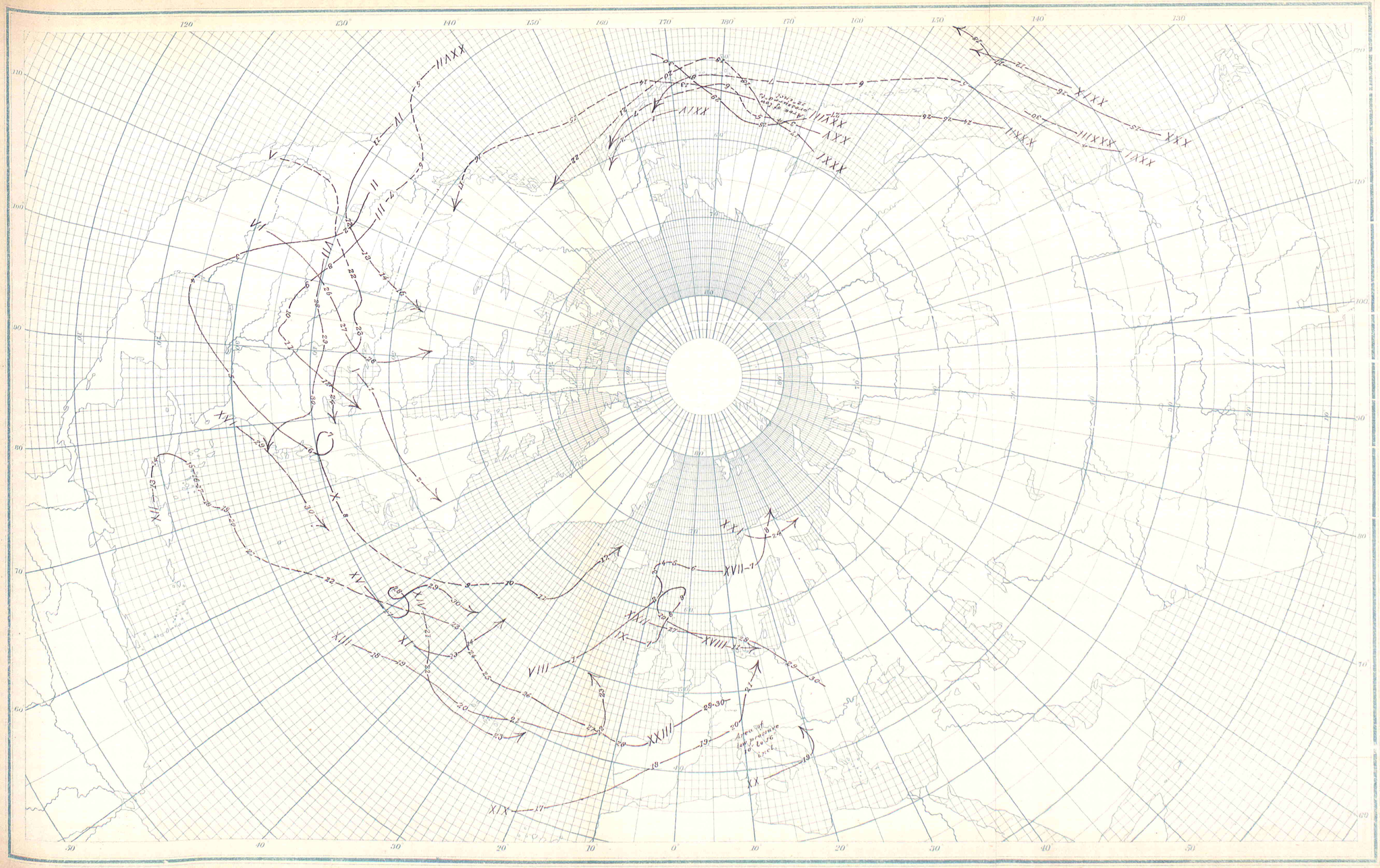
A. W. GREELY,
Chief Signal Officer.

International Chart II. April, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. April, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1886—Continued.

	Name of vessel.	Captain.
	WILSON LINE.	
Br.	s. s. Bassano	Capt. W. Rea.
	Buffalo	J. H. Malet.
	Chicago	J. W. Jones.
	Galileo	Richard Potter.
	Lepanto	Wm. Abbott.
	Otranto	Wm. Rippeth.
	Salerno	B. H. Rogers.
	Sorrento	J. T. Rogers, RNR.
	WATTS, WARD LINE.	
Br.	s. s. Richmond	J. Garsen
	Camden	S. R. Chandler.
	MISCELLANEOUS.	
Br.	s. s. Aboraca	John Temple.
	Athens	Ch. Off. Eml. Towns.
Nor.	Bedford	Capt. T. Aikenhead.
Ger.	Bratsburg	H. Neilsen.
Br.	Brutus	J. A. Voege.
	Chigwell	W. Masters.
	Chiswick	E. Leighton.
	Craighill	W. H. Bennett.
	Cranbrook	John W. Harvey.
	Edith Godden	John H. Bennett.
	El Callao	Jos. Scholtz.
Span.	Elstow	T. Robertson.
Br.	Emiliano	D. F. de Bengoa.
	Gedmandale	B. W. Hick.
Span.	Glenfalloch	R. Webster.
Br.	Hugo	A. de Mugica.
Am.	Lord Lansdowne	C H. Baskfill.
Br.	Lorenzo D. Baker	W. F. Wiley.
	Madrid	M. Garson.
	Matthew Bedlington	Thos Kirby.
	Peconic	John Jenkins.
	Piqua	J. H. Prouse.
Ger.	Prydain	Moses Perry.
Br.	Ralatea	J. Viereck.
	Rydal Water	H. Callahan, Mate.
	Sacrobosco	R. S. Thompson.
	Stag	James Adams.
	Sulina	Thos. Potter.
	Sussex	J. P. O'Callaghan.
	Vindolana	Thos. Harrison.
	Vertumnus	C. E. Cook.
	Viola	L. Murray.
	N. Y. HERALD WEATHER SERVICE.	
Br.	s. s. Abyssinia	Jas. Price.
Am.	Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell
	Alaska	G. S. Murray.
	Alpin	J. G. Perry.
	Aurania	W. H. P. Hains
	Alvo	D. Williams.
	Arizona	Sam. Brooks.
Belg.	Baltic	G. Burton.
Br.	Belgenland	W. A. Beynon.
Am.	Britanic	H. Perry.
Am.	Chalmette	Robert B. Quick.
Br.	City of Alexandria	J. W. Reynolds.
	City of Berlin	F. S. Land.
	City of Chester	H. Condron.
	City of Chicago	Fred. Watkins.
Am.	City of Montreal	A. Redford.
Br.	City of Puebla	John Deakin.
	City of Richmond	Authur Lewis.
Am.	Celtic	Benj. Gleadell.
Br.	Colon	Chas. Lima.
Ger.	Craighill	W. H. Bennett.
Br.	Donau	C. Phole.
Ger.	Etruria	T. Cook.
Ger.	Ems	W. Willigerod.
Belg.	Lessing	B. Voss.
Br.	Nederland	A. J. Griffin.
Am.	Nevada	J. Douglass.
Belg	Newport	W. G. Shackford.
Br.	Noordland	N. E. Nickils.
Dtch.	Olympia	James Brown.
Belg.	P. Caland	F. H. Bonjer.
	Pennland	R. Weyer.

	Name of vessel.	Captain.
	HERALD WEATHER SERVICE—Con.	
Br.	Republic	Capt. P. J. Irving.
Br.	Richmond Hill	A. Hyde.
Belg.	Rhynland	J. C. Jamison.
Dtch.	Schiedam	G. Bakker.
Br.	Servia	A. McKay.
Fr.	St. Laurent	M. de Jousselin.
Br.	The Queen	J. Milligan.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Waesland	J. Ueberweg.
Br.	Wisconsin	E. Bentley.
Belg.	Westernland	Com. W. G. Randle.
	SAILING VESSELS.	
Br.	bk. Abyssinian	Capt. John Hughes.
Am.	bg. Abbie Clifford	D. W. Storer.
Br.	bg. Achsah	A. M. Shaw.
Nor.	sp. Ariel	Fr. Schwings.
Br.	bk. Ada Peard	N. Hocken.
It.	Agostino Rombo	V. Basso.
Am. schr.	Annie R. Lewis	L. L. Lewis.
	bg. Arcot	J. W. Cates.
Nor.	bk. Artemis	E. E. Moe.
Ger.	Athena	A. Witte
Ger.	bk. Betty	S. Wohlmuth.
Br.	sp. British Isles	G. Southcott.
Br.	bk. British Princess	F. W. Peterson.
Ger.	sp. Caroline	Fr. Schluter.
Br.	sp. Chas. S. Whitney	Geo. D. Spicer.
Br.	bk. Childwall	T. O. Watson.
Br.	sp. City Camp	D. McLeod.
Ger. bkt.	Columbus	B. Sauermilch.
Br.	sp. Earl of Shaftsbury	W. Randall.
	E. J. Spicer	Dewis Spicer.
Am. schr.	Emily Shepard	E Coggins.
	Edward R. Emerson	A. H. Child.
Am.	bg. Ernestine	E. R. Norton.
	bk. Essex	G. W. Hall.
Br. schr.	Etta A. Watt	G. T. Lecompte.
Am. schr.	Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	G. J Pearce.
Am. schr.	Florence Rogers	J. S. F. McLeod.
	bk. Fluorine	Wm. Manson.
Ger.	sp. Georg	G. A. Scholtz.
Am.	bk. Harriet S. Jackson	W. T Bacon.
Br.	bk Harvester	W. Cassidy.
Am.	Havana	B. F. Rice.
Ger.	sp. Hedwig	Th. Minssen.
Dtch. bk.	Helena	T. T. Verbeet.
Am.	Harvard	Samuel Pray.
	sp. Henry Villard	F. B. Perkins.
Am. schr.	Henry Waddington	W H. Magee.
Ger.	bk. Ida	C. Fessenfeldt.
Br.	bk. Iodine	Adam Smith.
Am. schr.	John J. Hanson	L. J. Stevens.
Ger.	sp. J. W. Gildemeister	A. Lehman.
	Joseph Souther	J. W. Watts.
Br.	bk. Kryolith	W. C. Stephen.
	Lalla	Paul Le Blanc.
Am.	bg. L. & W. Armstrong	A. Alexander.
Nor.	bk. Lovspring	G. Thomsen.
Ger.	bk. Leocadia	John Stohff.
Br.	bg. Lilian	H. F. Schive.
Br. bkt.	Lydia	Geo. Lowery.
	sp. Mabel Taylor	C. E. Durkee.
Am.	sp. Mary L. Stone	G. L. Josselyn.
	Magellan	E. S. Manson.
Am. schr.	Maggie Abbott	D. C. McIntosh.
Am.	bg. Mary Fink	D. B. Darrah.
	sp. Mary L. Cushing	C. Downs.
Br.	sp. Morna	J. H. Goodwin.
Am. schr.	Nellie Coleman	Geo. Hodgkins.
Am. bkt.	Nellie M. Slade	J. A. Gould.
Am. schr.	Nelson Bartlett	S. Watts.
Ger.	sp. Palmo	W. Bahls.
Am.	bk. Ralph M. Hayward	J. Baxter.
Br.	bk. Recovery	T. E Blagdon.
Dan.	bk Rialto	N. P. Hansen.
Ger.	bk. Richard	A. von Seggern.
Br. bkt.	Rosebud	John Collie.
Br.	bk. Sarah Doe	B. S. Merryman.
Am. schr.	Sarah D. J. Rawson	Thos. D. French.
Am.	bk. Sarah	L. R. Hale.
Br.	sp. Sapphire	G. W. Murray.

	Name of vessel.	Captain.
	SAILING VESSELS—Continued.	
Ger.	sp. Shakspere	Capt. Carl Muller.
Br.	Stephen D. Horton	J. Spicer.
Am.	sp. St. John	O. H. Fales.
Am.	bk. Samuel E. Spring	B.W. Proctor, Mate
Am.	bg. Teneriffe	N. S. Tracy.
Nor.	bk. Tros	S. Brager.
Br.	bk. Tuck Sing	Geo N. Ryder.
Am.	Tille Baker	J. H. Carty.
Aust.	sp. The Lord Warden	J. N. Ossoinack.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	bk. Western Chief	Fr. Sander.
Am.	Xenia	N. E. Reynolds.
	UNITED STATES NAVAL.	
U. S. S.	Adams	Louis Kempff.
U. S. S.	Alert	C. J. Barclay.
U. S. S.	Alliance	C. McGregor.
U. S. S.	Brooklyn	E. O. Matthews.
U. S. S.	Galena	C. W. Chester.
U. S. S.	Hartford	Charles M. Thomas.
U. S. S.	Iroquois	Yates Stirling.
U. S. S.	Jamestown	C. V. Gridley.
U. S. S.	Kearsarge	C. D. Sigsbee.
U. S. S.	Lancaster	E. E. Potter.
U. S. S.	Marion	Merrill Miller.
U. S. S.	Monocacy	H. Glass.
U. S. S.	Monongahela	Geo. B. Livingston.
U. S. S.	Mohican	Com. B. F. Day.
U. S. S.	Omaha	Capt. T. O. Selfridge.
U. S. S.	Ossipee	J. F. McGlensey.
U. S. S.	Palos	T. Nelson.
U. S. S.	Pensacola	Geo. Dewey.
U. S. S.	Pinta	
U. S. S.	Portsmouth	Silas W. Terry.
U. S. S.	Powhatan	L. A. Beardsly.
U. S. S.	Quinnebaug	
U. S. S.	Ranger	C. E. Clark.
U. S. S.	Saratoga	W. H. Whiting.
U. S. S.	Shenandoah	B. Wilson.
U. S. S.	Swatara	E. T. Windham.
U. S. S.	Tallapoosa	Wm. Whitehead.
U. S. S.	Tennessee	Robert Boyd.
U. S. S.	Trenton	R. L. Phythian.
U. S. S.	Vandalia	H. L. Howison.
U. S. S.	Yantic	F. M. Green.
	BRITISH NAVAL.	
H. M. S.	Audacious	Capt. R. H. Harris.
H. M. S.	Briton	R. M. Lloyd.
H. M. S.	Bacchante	A. U. Moore.
H. M. S.	Bellerphon	Fitz-Gerald.
H. M. S.	Cleopatra	L. C. Keppel.
H. M. S.	Champion	A. T. Powlett.
H. M. S.	Condor	H. J. May.
H. M.	Dockyard, Bermuda	J. F. G. Grant.
H. M. S.	Dreadnought	T. G. D. Bedford.
H. M. S.	Flying Fish	J. P. Maclear.
H. M. S.	Himalaya	J. E. Stokes.
H. M. S.	Heroine	F. B. Blackburn.
H. M. S.	Minotaur	B. F. Clark.
H. M. S.	Myrmidon	
H. M. S.	Mariner	J. Durnford.
H. M. S.	Miranda	E. Rooke.
H. M. S.	Nelson	A. P. Lake.
H. M. S.	Rambler	
H. M. S.	Rifleman	C. W. Prater.
H. M. S.	Superb	H. F. Cleveland.
H. M. S.	Sylvia	L. S. Dawson.
H. M. S.	Satellite	A. H. Allington.
H. M. S.	Torquoise	R. Woodward.
H. M. S.	Temeraire	C. E. Domville.
H. M. S.	Thunderer	H. F. Stephenson.
	SWEDISH NAVAL.	
H. S. M. S.	Robertsford	G. E. Sandborg.
	DUTCH NAVAL.	
Bromo		

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of April, 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	[Todd, C. M. G.
Hobart Town, Tasmania	L. C. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
Penang	F. K. Hampshire, M. B.
Singapore	T. Irvine Rowell, M. D.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Prof. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	R. Gardner Warton.
Springbok Fontein	J. T. Eustace
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Faröe	Overloerer Lauridsen.
DANISH—*Continued.*	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. de Tastes, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
ITALIAN—*Continued.*	
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	H. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Onura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	F. Weidner.
Mexico	The Staff.
Puebla	E. Cappelletti.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF MAY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
JULY, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Norwegian	R. Carruthers.
Prussian	Alex. McDougal.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. Burton.
British King	John Kelly.
British Prince	Samuel Nowell.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Acadia	John McKeague.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Furnessia	J. Hedderwick.
Italia	T. Craig.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Span. Alps	T. Anasagasti.
Br. Alvo	David Williams.
Alvena	O. Hughes.
Span. Andes	T. MacKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
Chateau Yquem	J. le Chapelain.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gaeger.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	Dr. C. Ollive, Obs.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. Amérique	E. Santelli.
St. Germain	—— Boyer.
Labrador	P. dé Hauterive.
Normandiè	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Off. E. Crossmann.
GUION LINE.	
Br. s. s. Arizona	Capt. S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Reessing.
Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con'd.	
Moravia	Capt. O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	E. Kopff.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Claymore	—— Gulland.
Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Bessel	Chas. J. Watson.
Dalton	J. Russell.
Belg. Hipparchus	W Kelly.
Keppler	J. Dixon.
Br. Mozart	T. Sawyer.
Olbers	Jas Clark.
Teniers	J. McAuley.
Thales	J. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptian Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Persian Monarch	F. Paton.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Sumner.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Elbe	H. Richter.
Ems	W. Willigerod
Fulda	R. Ringk.
Habsburg	F. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Leipzig	C. Thalenhorst.
Main	H. Christoffers.
Rhein	C. Wiegand.
Werra	Richard Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R.N.R
Oceanic	J. Thomson.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	Capt K. S. Nickerson.
Chattahoochee	J. W. Catherine.
Juniata	S. L. Askins.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Derry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
PYMAN WATSON STEAMSHIP Co.	
Br. s. s. Netley Abbey	H. N. Vyvyan.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
Zaandam	A. Potjer.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Jan Breydell	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.

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WASHINGTON, D. C.
JULY, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, MAY, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.													
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																								
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.04	763.0	30.17	766.3	54.0	12.2	72	3	1	2	2	3	4	.....	4	12	5469	8801	6	1.09	27.7
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.73	755.1	29.92	760.0	47.7	8.7	87	8	9	4	4	2	1	.....	1	2	.....	.....	5	2.01	51.1
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.01	762.2	30.09	764.3	50.8	10.4	79	8	7	7	1	3	4	.....	1	.....	.....	.....	6	0.80	20.3
Austrian.																										
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.46	748.2	29.99	761.8	68.2	20.1	42	2	.....	.....	9	9	2	3	6	.....	.....	.....	6	1.02	25.8
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.22	742.2	29.98	761.6	64.2	17.9	57	.....	6	6	8	2	2	3	4	.....	.....	.....	6	1.90	48.2
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.08	738.7	29.98	761.4	58.8	14.9	66	6	.....	.....	1	14	.....	.....	.....	10	.....	.....	6	1.40	35.6
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.74	729.9	29.96	761.0	64.0	17.8	58	3	3	2	10	7	3	2	1	.....	.....	.....	5	2.55	64.7
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.63	727.2	29.96	760.9	64.4	18.0	62	.....	3	5	5	1	.....	5	8	4	.....	.....	6	1.28	32.6
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28 98	736.0	29.95	760.8	63.9	17.7	68	4	3	3	10	4	2	2	3	.....	.....	.....	6	1.92	48.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.93	760.2	30.03	762.8	68.2	20.1	64	1	1	9	2	6	7	3	.....	2	.....	.....	3	1.15	29.3
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.56	750.8	29.97	761.3	70.2	21.2	65	10	4	10	3	1	1	1	1	.....	.....	.....	5	2.54	64.5
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.67*a*	753.7*a*	29.96*a*	761.0*a*	70.2	21.2	49	2	5	2	6	6	3	1	3	3	.....	.....	4	1.51	38.4
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	30.04	762.9	30.13	765.4	73.9	23.3	52	1	9	4	10	1	1	1	4	.....	.....	.....	2	0.09	2.3
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.28	743.6	29.99	761.8	63.7	17.6	55	1	7	7	1	2	7	5	.....	1	.....	.....	5	1.04	26.5
Brazilian.																										
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.95	760.6	30.12	765.1	69.1	20.6	80	.....	23	3	1	.....	2	.....	2	.....	.....	.....	5	0.35	8.9
British.																										
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.81	757.2	29.94	760.5	49.1	9.5	70	.....	2	1	1	8	6	7	6	.....	8584	13814	6	4.00	101.6
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.91	759.7	53.6	12.0	64	1	4	8	2	2	5	6	3	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.51	749.5	29.92	760.0	52.0	11.1	66	1	4	6	3	4	5	4	4	.....	.....	.....	8	4.64	117.9
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.93	760.2	29.89	759.2	85.7	29.8	65	.....	.....	.....	.....	.....	.....	.....	7	24	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.78	756.4	29.99	761 7	57.5	14.2	67	.....	.....	3	5	4	1	.....	18	.....	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.73	755.1	29.94	760.5	54.5	12.5	77	.....	3	3	5	5	6	7	2	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.70	703.6	29.88	758.9	73.8	23.2	33	1	4	.....	1	.....	4	.....	21	.....	.....	.....	2	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.63	752.6	29.80	756.9	83.4	28.6	83	11	.....	1	4	7	.....	5	3	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.81	757.2	29.86	758.4	54.9	12.7	74	2	2	5	5	7	3	2	5	.....	.....	.....	6	4.60	116.8
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.92	760.0	29.98	761.5	68.3	20.2	84	.....	9	4	5	.....	.....	8	5	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.76	755.9	29.95	760.7	59.8	15.4	63	2	1	1	10	5	2	6	4	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.66	753.4	29.96	761.0	56.5	13.6	80	.....	2	4	9	1	2	6	3	4	6265	10082	6	3.71	94.2
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.87	758.7	29.96	761.0	57.4	14.1	61	6	1	3	6	8	.....	4	3	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.65	753.1	29.93	760.2	55.3	12.9	45	.....	1	2	15	.....	.....	.....	11	2	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.95	760.7	30.01	762.2	66.5	19.2	79	.....	8	1	.....	.....	8	7	7	.....	.....	.....	2	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.03	762 7	30.03	762.7	80.3	26.8	68	6	1	2	1	6	5	7	3	.....	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.70	754.4	29.95	760.7	56.9	13.8	64	1	3	.....	6	9	4	2	6	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.84	757.9	29.93	760.2	57.5	14.2	71	1	2	1	6	9	2	8	1	1	.....	.....	7	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.81	757.2	29.93	760.2	48 6	9.2	73	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.87	758.7	29.92	760.0	66.7	19.3	57	10	.....	.....	11	5	.....	.....	5	.....	.....	.....	5	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.94	760.5	51.3	10.7	78	1	1	11	4	3	.....	2	9	.....	7555	12158	9	6.22	158.0
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.86	758.4	29.90	759.4	52.7	11.5	73	7	6	5	2	4	6	1	.....	.....	.....	.....	8	.....	.....
Sub-series.																										
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.69	754.1	30.06	763.5	68.7	20.4	57	1	9	3	6	1	4	6	1	.....	4510	7259	6	0.62	15.7
Penang	N. 5 24	E. 100 20	6.41 p.m.	20	6	29.83	757.7	29.77	756.1	80.4	26.9	86	1	14	.....	2	.....	7	.....	7	.....	.....	.....	6	11.53	292.8
Singapore	N. 1 17	E. 103 51	6.55 p.m.	10	3	29.87	758.7	29.80	756.9	78.9	26.1	92	.....	.....	.....	5	.....	2	.....	.....	24	.....	.....	6	9.74	247.4
Malacca	N. 2 10	E. 102 14	6.49 p m.	12	4	29.86	758.4	29.79	756 7	80.0	26.7	89	5	.....	5	.....	1	2	11	7	.....	.....	.....	5	11.77	299.0
Canadian.																										
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.88	759.0	29.93	760.2	46.2	7.9	.....	.....	4	2	1	8	1	7	.....	8	.....	.....	7	6.27	159.3
Bird Rocks	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.81	757.2	29.95	760.7	38.4	3.6	89	5	4	.....	3	12	4	1	2	.....	.....	.....	5	2.30	58.4
Charlottetown	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.89	759.2	29.93	760.2	47.3	8.5	77	3	3	3	5	7	5	3	.....	2	5269	8480	6	4.40	111.8
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.87	758.7	29.93	760.2	45.2	7.3	79	5	1	3	5	6	.....	5	6	.....	3607	5805	6	4.58	116.3
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	.....	.....	.....	.....	52.9	11.6	74	1	.....	21	2	.....	.....	6	1	.....	.....	.....	5	2.01	51.1
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.85	758.2	29.90	759.4	44.0	6.7	.....	.....	1	12	.....	.....	2	10	.....	2	.....	.....	6	3.49	88.6
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.84	757.9	29.88	758.9	43.5	6.4	82	1	5	4	8	2	2	.....	9	.....	10691	17205	4	2.71	68.8
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.10	739.1	29.94	760.5	43.4	6.3	82	8	4	3	1	9	3	1	2	.....	9254	14893	5	1.19	30.2
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.75	755.6	29.94	760.5	48.8	9.3	73	1	5	2	2	6	2	6	6	1	5126	8249	6	3.65	92.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.86	758.4	29.92	760.0	47.5	8.6	80	.....	4	2	2	6	5	.....	5	7	7770	12504	4	4.97	126.2
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.83	732 3	29 93	760.2	47.7	8.7	92	2	6	1	2	2	1	3	.....	14	2817	4534	4	1.41	35.8
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.84	757.9	29.97	761.2	47.1	8.4	84	5	2	1	6	4	8	.....	4	1	.....	.....	5	8.83	224.3
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.55	750.6	29.95	760.7	54.4	12.4	81	1	2	10	5	3	1	3	6	.....	.....	.....	5	2.07	52.6
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.57	751.1	29.90	759.4	49.5	9.7	79	5	2	2	10	4	1	.....	6	1	3934	6331	5	2.71	68.8
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.92	759.9	29.96	761.0	46.8	8.2	82	7	2	1	8	11	.....	1	1	.....	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.04	737.6	29.94	760.5	49.0	9.4	84	2	2	1	.....	.....	.....	.....	.....	26	1936	3116	4	2.89	73.4
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	29.64	752.8	29.90	759.4	49.1	9.5	69	2	1	8	2	3	1	3	1	10	6596	10615	3	1.41	35.8
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.05	712.5	29.91	759.7	42.8	6.0	79	3	2	5	.....	.....	3	5	4	9	8442	13586	4	1.63	41.4
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.67	753.6	29.88	758.9	52.0	11.1	72	9	1	6	6	2	2	3	.....	.....	.....	.....	7	2.72	69.1
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.64	752.8	29.89	759.2	49.8	9.9	77	3	8	8	3	.....	2	4	3	....	4128	6643	4	1.74	44.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.22	742.2	29.92	760.0	45.9	7.7	82	3	1	4	.....	7	2	9	3	2	5703	9178	4	1.45	36.8
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.21	741.9	29.92	760.0	51.5	10.8	79	1	11	2	1	1	1	2	10	.....	.....	.....	5	1.88	47.9
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.20	741.7	29.92	760.0	43.2	6.2	78	1	8	.....	2	.....	.....	.....	6	14	3710	5971	3	0.73	18.5
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.23	742.4	29.93	760.2	50.6	10.3	92	2	7	1	3	1	.....	.....	6	11	3500	5633	5	2.38	60.5
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.28	743.7	29.92	760.0	48 9	9.4	86	9	3	4	2	.....	2	5	2	4	.....	.....	4	2.62	66.5
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	29.64	752.8	29.93	760.2	43.3	6.3	92	2	4	5	4	5	2	1	.....	8	8475	13639	3	1.66	42.2
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.54	750.3	29.87	758.7	46.9	8.3	82	1	2	4	4	.....	1	7	3	9	.....	.....	6	4.20	106.7
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.48	748 8	29.94	760.5	43.9	6.6	76	.....	5	14	.....	.....	.....	4	1	7	.....	.....	4	0.94	23.9
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.84	757.9	29.89	759.2	44.9	7.2	90	.....	4	.....	2	6	6	4	4	5	.....	.....	2	3.22	81.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.81	757.2	29.94	760.5	46.9	8.3	86	4	4	.....	.....	11	1	6	.....	5	.....	.....	6	4.68	119.0
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.00	762.0	44.1	6.8	.....	1	3	.....	3	5	7	5	3	4	.....	.....	.....	7.91	201.
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.22	742.2	29.94	760.5	45.7	7.6	85	3	3	2	2	3	2	4	3	9	5221	8402	4	1.37	34.8
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	.....	.....	29.84	757.9	29.87	758.7	40.6	4.8	85	6	3	2	.....	5	12	3	.....	.....	.....	.....	3	3.41	86.6
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.66	728.0	29.94	760.5	50.5	10.3	83	3	3	6	9	1	6	.....	2	1	3550	5713	4	2.08	52.9
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.32	693 9	29.92	760.0	43.8	6.6	.....	.....	.....	.....	9	0	9	2	.....	3	.....	.....	4	2.01	51.1
Sydney	N. 46 08	60 10	7.59 a.m.	37	11	29.92	760 0	29.97	761.2	46.3	7.9	80	4	1	3	4	12	1	2	1	3	5985	9632	5	6.74	171.2
Toronto	N. 43 39	W 79 23	6.42 a.m.	350	107	29.55	750.6	29.93	760.2	49.0	9.4	80	7	9	2	3	.....	2	1	5	2	.....	.....	5	2.41	61.2
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.88	733.6	29.94	760.5	50.4	10.2	80	1*e*	8	2	5	.....	1	3	3	2	.....	.....	4	1.98	50.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.86	758.4	29.93	760.2	47.0	8.3	87	3	3	.....	2	8	6	5	2	2	.....	.....	4	4.99	126.7
Sub-series.																										
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.78	756.4	29.97	761.2	43.0	6.1	84*a*	1	2	3	1	10	11*	.....	3	.....	.....	.....	5	2.80	71.1
Cape Colony																										
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.06*e*	763.5*e*	30.06*e*	763.5*e*	63.3	17.4	95	1	.....	14	2	.....	.....	5	2	7	.....	.....	2	1.32	33.5
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.03	762 7	.....	.....	62.8	17.1	66	.....	3	6	1	.....	4	.....	.....	17	.....	.....	5	2.79	70.9
Chinese.																										
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.79	756.7	29.84	757.9	75.2	24.0	84	1	1	.....	.....	5	4	16	4	.....	.....	.....	7	1.76	44.7
Sub-Series.																										
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.90	759.5	29.88	759.0	63.7	17.6	86	5	.....	3	.....	2	7	7	7	.....	.....	.....	7	3.73	94.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
DANISH.	° ′	° ′																								0–10		
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.91	759.8	29.99	761.8	57.2	14.0	62	4	6	4	1	10	2	2	2	.....	.....	.....	5	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.94	760.5	29.99	761.8	54.5	12.5	67	.....	7	9	5	4	2	2	2	.....	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.93	761.7	30.08	764.1	38.3	3.5	76	.....	.....	2	1	.....	3	12	9	4	.....	.....	6	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.89	759.3	29.96	760.9	45.0	7.2	76	10	1	.....	6	1	2	2	6	3	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.86	758.4	29.99	761.7	52.2	11.2	71	.....	6	6	5	8	1	1	4	.....	.....	.....	4	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.36	745.7	29.99	761.8	65.3	18.5	70	1	4	1	.....	1	10	.....	.....	14	.....	.....	5	3.43	87.2
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.52	749.8	30.00	762.0	61.5	16.4	65	.....	.....	.....	1	16	5	1	7	1	.....	.....	5	5.81	147.6
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.74	755.3	30.02	762.5	64.6	18.1	47	1	4	2	11	1	2	3	2	5	.....	.....	4	2.53	64.3
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.94	760.4	30.02	762.4	72.1	22.3	50	5	5	5	5	8	2	.....	1	.....	.....	.....	.....	1.64	41.0
Bar-sur-Seine *a*	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.44	747.7	29.98	761.5	65.1	18.4	54	1	2	1	5	6	7	2	7	.....	.....	.....	5	2.27	57.6
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.64	752.8	30.01	762.3	65.7	18.7	57	.....	2	2	8	6	.....	.....	9	4	.....	.....	.....	2.28	57.8
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.08	738.6	29.95	760.8	63.7	17.6	60	.....	.....	.....	3	14	.....	10	3	1	.....	.....	4	3.95	100.3
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.74	755.4	30.00	761.9	64.0	17.8	61	2	.....	3	8	1	5	4	8	.....	.....	.....	6	3.02	76.8
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.39	746.6	29.96	761.0	65.5	18.6	53	4	.....	4	7	6	5	3	2	.....	.....	.....	4	2.09	53.0
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.72	755.0	29.94	760.5	61.5	16.4	68	2	2	2	10	6	3	3	2	1	.....	.....	6	2.71	68.8
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.85	758.2	29.92	760.0	64.2	17.9	62	6	4	1	8	5	2	.....	5	.....	.....	.....	3	3.46	88.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.67	753.7	30.01	762.2	66.4	19.1	76	10	5	2	2	1	1	4	6	.....	.....	.....	4	2.17	55.2
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.47	748.5	30.00	762.0	66.7	19.3	51	4	3	3	5	7	1	1	4	3	.....	.....	.....	1.74	44.1
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.65	727.6	29.97	761.2	66.0	18.9	46	7	1	4	3	4	8	.....	4	.....	.....	.....	5	2.01	51.0
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.18	741.1	30.02	762.4	64.9	18.3	51	1	2	3	6	8	2	2	4	3	.....	.....	.....	7.26	184.4
Commercy	N. 48 46	E. 5 35	0.22 p.m.	797	243	29.18	741.2	30.07	763.7	63.3	17.4	83	1	.....	6	7	1	5	6	4	1	.....	.....	3	0	0
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.51	698.8	29.99	761.8	65.3	18.5	45	.....	.....	1	5	1	.....	.....	9	15	.....	.....	.....	2.50	63.4
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.90	734.1	30.00	762.0	68.2	20.1	46	.....	1	6	5	1	4	13	1	.....	.....	.....	4	0.82	20.7
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.32	744 7	30.08	764.1	65.3	18.5	55	3	17	5	2	.....	1	1	2	.....	.....	.....	.....	2.81	55.4
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.41	721.5	29.98	761.6	58.3	14.6	75	.....	1	5	10	4	7	3	1	.....	.....	.....	5	1.16	29.4
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.42	747.3	29.99	761.7	69.4	20.8	58	2	8	9	4	1	2	1	4	.....	.....	.....	.....	5.83	148.1
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.89	759.2	30.00	762.1	61.9	16.6	71	.....	1	2	5	15	5	.....	3	.....	.....	.....	7	2.55	64.7
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.97	735.7	30.00	762.0	64.4	18.0	52	6	2	1	3	6	8	4	1	.....	.....	.....	5	6.63	168.5
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.68	753.8	29.98	761.4	62.1	16.7	61	2	2	7	5	5	4	2	4	.....	.....	.....	.....	4.65	118.0
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.74	755.5	30.01	762.3	69.3	20.7	50	.....	2	9	5	8	4	3	.....	.....	.....	.....	.....	0.34	8.7
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24 88	631.9	29.72	754 9	54.1	12.3	57	3	.....	9	11	.....	2	5	1	.....	.....	.....	4	1.71	43.5
Montpellier *a*	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.87	758.7	29.98	761.5	67.6	19.8	69	4	3	3	2	8	6	3	1	.....	.....	.....	.....	1.58	40.2
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.87	606.4	.....	.....	.....	.....	.....	4	5	1	2	15	3	.....	1	.....	.....	.....	3	7.37	187.3
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.25	743.0	30.02	762.5	63.0	17.2	56	2	.....	2	7	2	5	1	11	1	.....	.....	.....	3.59	89.0
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.84	758.0	30.00	761.9	63.5	17.5	60	1	.....	2	10	5	2	8	3	.....	.....	.....	7	3.68	93.4
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.93	760.2	29.99	761.8	69.1	20.6	68	*b*	.....	3	.....	4	5	1	.....	16	.....	.....	.....	1.40	35.5
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.89	759.2	30.00	762.0	67.6	19.8	56	2	6	.....	.....	2	3	11	7	.....	.....	.....	5	1.00	27.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	25.15	538.7	.....	.....	34.5	1.4	76	.....	2	5	14	1	.....	.....	.....	9	.....	.....	.....	2.52	64.1
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.09	738.9	30.01	762.2	65.8	18.8	57	6	.....	3	1	26	.....	.....	.....	.....	.....	.....	.....	5.63	143.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.14	638.6	.....	.....	44.1	6.7	75	1	.....	3	9	6	3	3	6	.....	.....	.....	6	3.59	91.2
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.93	760.3	29.97	761.1	65.5	18.6	58	.....	.....	2	9	3	5	5	7	.....	.....	.....	6	4.02	102.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.72	755.0	29.97	761.3	62.6	17.0	60	.....	1	5	10	3	1	5	6	.....	.....	.....	.....	1.57	39.8
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.89	708.5	30.02	762.6	62.6	17.0	42	6	10	.....	.....	.....	.....	9	.....	3	.....	.....	.....	5.69	144.5
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.94	760.5	30.00	762.0	64.9	18.3	52	1	.....	3	9	5	6	3	4	.....	.....	.....	.....	1.81	45.9
Saint Brience *f*	N. 48 37	E. 5 08	0.20 p.m.	346	106	*k*29.49	*k*749.0	*k*29.86	*k*758.5	56.8	13.8	74	1	2	6	1	6	3	3	.....	.....	.....	.....	5	3.90	99.0
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.83	757.7	30.01	762.2	64.6	18.1	50	3	1	1	10	7	2	4	3	.....	.....	.....	5	2.68	68.0
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.34	745.1	30.06	763.5	66.2	19.0	63	1	15	1	.....	2	11	1	.....	.....	.....	.....	.....	4.42	112.2
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.81	757.2	29.99	761.8	63.3	17.4	65	6	2	1	4	12	1	3	2	.....	.....	.....	.....	3.90	99.1
Sub-Series.																												
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.87	758 7	30.02	762.5	66.0	18.9	60	5	6	7	1	2	1	7	2	.....	.....	.....	6	4.05	102.9
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.58	725 9	30.00	762.1	63.5	17.5	45	2	4	2	5	1	1	4	10	2	.....	.....	5	1.84	46.6
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.13	740.0	29.99	761.7	65.7	18.7	52	5	5	10	6	.....	.....	.....	5	.....	.....	.....	6	2.73	69.4
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.84	757.9	30.00	762.1	65.3	18.5	40	5	3	2	8	8	.....	3	2	.....	.....	.....	5	2.58	65.5
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.47	748.4	30.01	762.3	64.4	18.0	42	3	7	6	2	2	10	1	.....	.....	.....	.....	6	1.03	26.1
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.57	751.1	30.03	762.7	64.6	18.1	52	.....	1	2	14	1	1	3	9	.....	.....	.....	5	4.98	126.5
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.26	743.2	29.99	761.8	64.0	17.8	47	10	5	2	8	4	.....	.....	2	.....	.....	.....	5	1.84	46.7
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.64	752.8	30.06	763.5	65.1	18.4	46	4	5	6	6	2	.....	2	6	.....	.....	.....	5	1.95	49.5
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.60	726.5	29.99	761.8	63.3	17.4	56	.....	..	..	2	20	3	.....	6	.....	.....	.....	5	3.59	91.1
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.90	759.5	30.01	762.3	60.4	15.8	54	8	1	3	8	2	4	1	4	.....	.....	.....	6	1.73	43.9
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.96	760.9	29.99	761.7	57.6	14.2	58	3	4	9	6	1	.....	1	7	.....	.....	.....	5	2.11	53.5
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.58	751.3	30.01	762.3	63.3	17.4	57	6	5	1	5	4	1	1	7	1	.....	.....	5	4.20	100.8
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.94	760.4	30.02	762.4	56.7	13.7	66	4	12	3	7	3	.....	.....	2	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.19	715.9	30.06	763.5	64.0	17.8	46	2	4	7	3	.....	2	3	9	1	.....	.....	5	2.16	54.8
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.97	761.2	30.03	762 7	56.5	13.6	68	10	6	6	2	3	.....	4	.....	.....	.....	.....	5	1.84	46.8
Neustadt *a*	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.48	748.9	30.02	762.6	64.6	18.1	54	3	.....	1	7	7	.....	2	7	3	.....	.....	5	2.72	69.0
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.12	739.7	30.01	762.3	64.4	18.0	50	7	5	1	5	1	2	1	9	.....	.....	.....	5	2.92	74.1
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.97	761.1	30.01	762.2	57.6	14.2	69	7	3	7	8	1	1	2	2	.....	.....	.....	5	1.31	33.3
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.62	752.3	29.98	761.4	72.5	22.5	59	2	4	.....	4	6	2	.....	13	.....	.....	.....	3	1.29	32.7
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.57	751.1	29.57	751.0	90.8	32.7	65	.....	2	12	15	2	.....	.....	.....	.....	.....	.....	2	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.13	739.9	29.53	749.9	105.2	40.7	22	1	3	8	12	5	.....	.....	2	.....	.....	.....	2	0.13	3.3
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.68	753.8	29.66	753.2	86.8	30.4	71	1	11	12	4	2	1	.....	.....	.....	.....	.....	2	0.96	24.4
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.86	707.6	29.59	751.6	91.0	32.8	37	.....	8	12	8	.....	1	2	.....	.....	.....	.....	3	0.54	13.7
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.20	690.9	29.62	752.4	81.1	27.3	63	.....	1	14	11	1	2	.....	1	.....	.....	.....	4	5.01	142.5
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.88	733.4	29.52	749.8	97.8	36.6	22	9	6	.....	.....	1	.....	9	1	5	.....	.....	3	0.08	2.0
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.71	729.3	29.54	750.2	92.7	33.7	31	2	.....	.....	.....	6	4	2	.....	6	.....	.....	2	1.78	45.2
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.02	737.0	29.51	749.5	101.5	38.6	21	9	3	9	.....	1	3	5	1	.....	.....	.....	2	0.50	12.7
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.55	725.3	29.48	748.9	102.2	39.0	23	2	6	5	2	4	4	2	4	.....	.....	.....	4	0.08	2.0
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.27	718.0	29.50	749.4	99.7	37.6	21	12	7	.....	1	5	3	.....	2	2	.....	.....	4	1.34	34.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.25	743.0	29.57	751.0	96.0	35.6	32	3	5	5	4	4	2	3	3	.....	.....	.....	4	1.99	50.6
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.26	743.3	29.52	749.7	99.8	37.7	28	5	7	1	.....	.....	.....	7	10	1	.....	.....	2	0.50	12.7
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.44	747.7	29.57	751.0	93.4	34.1	44	4	4	.....	.....	.....	.....	10	7	6	.....	.....	2	1.52	38.6
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.66	702.3	29.55	750.7	87.3	30.7	40	6	5	2	.....	2	7	4	4	1	.....	.....	4	3.72	94.5
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.58	751.4	29.61	752.0	87.5	30.8	69	.....	1	.....	5	10	2	1	.....	12	.....	.....	6	4.22	107.2
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.64	752.9	29.61	752.1	86.1	30.1	68	.....	.....	.....	6	12	8	3	1	.....	.....	.....	5	7.93	201.4
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.57	751.0	29.63	752 7	82.7	28.2	74	1	.....	.....	1	1	.....	4	7	17	.....	.....	4	9.06	230.1
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.64	752.7	29.67	753.5	82.7	28.2	80	1	1	7	11	5	1	.....	1	4	.....	.....	6	10.87	276.1
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.40	746.7	29.69	754.0	81.1	27.3	77	3	1	1	3	4	.....	.....	16	.....	.....	.....	5	9.89	251.2
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.18	715.7	29.50	749.3	100.9	33.3	21	3	14	6	2	.....	2	.....	4	.....	.....	.....	3	0.34	8.6
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.17	715 5	29.51	749.4	97 0	36.1	32	2	4	7	6	3	4	5	1	.....	.....	.....	6	0.05	1.3
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.46	748.2	29.66	753.3	92.3	33.5	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	12.30	312.4
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.56	750.9	29.97	761.1	68.0	20.0	51	.....	2	.....	3	10	5	4	2	5	.....	.....	6	3.45	87.7
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.51	749.5	30.02	762.4	70.0	21.1	31	2	1	2	10	7	4	4	1	.....	.....	.....	5	2.79	70.8
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.91	759.7	30.01	762.2	68.4	20.2	47	1	.....	4	10	2	4	6	3	1	.....	.....	5	1.23	31.2
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.11	739.3	30.00	761.9	67.6	19.8	67	1	3	.....	3	7	6	11	.....	.....	.....	.....	4	3.20	81.3
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.84	758.0	30.03	762.8	66.4	19.1	59	3	.....	.....	13	5	9	1	.....	.....	.....	.....	4	3.34	84.7
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.99	761.8	30.04	763.0	65.7	18.7	61	3	.....	2	3	.....	8	8	7	.....	.....	.....	4	0.24	6.1
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.77	756.2	30.02	762.6	69.6	20.9	44	5	6	9	6	2	.....	1	2	.....	.....	.....	4	2.67	67.8
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.95	760 8	30.04	762.9	67.1	19.5	57	.....	5	14	5	6	.....	.....	1	.....	.....	.....	5	1.76	44.8
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.86	758.5	30.04	762.9	70.9	21.6	46	5	.....	7	11	3	3	.....	2	.....	.....	.....	4	1.54	39.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.77	756.2	30.02	762.5	68.0	20.0	49	9	6	.....	4	1	3	5	3	.....	.....	.....	4	3.92	99.7
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.14	740.1	30.02	762.4	67.8	19.9	68	.....	6	17	2	1	4	1	.....	.....	.....	.....	4	3.42	86.8
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.82	757.3	30.05	763.6	70.3	21.3	56	.....	4	1	1	.....	2	.....	23	.....	.....	.....	6	1.44	36.7
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	30.01	762.2	30.05	763.3	70.0	21.1	66	6	3	1	6	3	.....	6	6	.....	.....	.....	5	0.46	11.7
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22.19	563.7	.....	.....	37.9	3.3	66	1	...	16	5	.....	.....	.....	9	.....	.....	.....	5	4.82	122.5
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.21	564.2	.....	.....	39.6	4.2	60	6	9	1	3	1	1	1	9	.....	.....	.....	7	2.72	69.0
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.90	759.6	29.94	760.5	55.3	12.9	87	2	3	8	2	.....	3	9	3	1	.....	.....	8	5.01	127.3
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.90	759.5	29.92	760.1	52.4	11.3	82	7	2	1	.....	2	1	.....	1	17	1583	2548	6	1.92	48.8
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	29.94	760 5	29.93	760.3	58.2	14.6	87	10	6	2	1	1	1	.....	3	7	4755	7651	7	6.45	163.9
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	29.92	760.0	29.95	760,7	61.5	16.4	87	1	5	1	3	2	7	.....	.....	12	2511	4041	7	10.80	274.2
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.93	760.1	29.93	760.2	48.9	9.4	86	6	1	2	2	5	2	11	.....	2	5591	8997	7	3.27	83.3
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.86	758.4	29.93	760.1	61.7	16.5	88	2	.....	9	4	3	.....	6	1	6	.....	.....	7	11 33	287.9
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.92	760.0	29.91	759.7	62.0	16.7	82	15	1	.....	2	5	1	1	2	4	3790	6099	6	9.84	249.9
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.86	758.5	29.94	760.5	58.3	14.6	86	.....	.....	3	4	1	5	9	1	8	3129	5036	7	8.71	220.9
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.95	760.8	29.93	760 2	64.8	18.2	82	.....	9	3	2	3	2	2	2	8	2517	4051	6	12.40	314.8
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.79	756.6	29.93	760.3	60.5	15.8	80	14	4	2	.....	3	2	.....	6	.....	2975	4788	7	8.55	216.8
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.94	760.4	29.93	760.2	65.4	18.5	81	3	8	4	2	1	2	5	1	5	5140	8274	7	14.19	360.4
Misaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.93	760.3	29.92	760.1	65.6	18.7	82	7	1	6	.....	6	1	2	1	7	5927	9538	4	10.82	274.9
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.85	758.3	29.94	760.6	51.1	10.6	88	3	.....	8	6	5	.....	.....	6	3	2803	4513	6	2.65	67.2
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.74	755.4	29.91	759.7	63.0	17.2	82	4	3	1	10	4	2	1	2	4	4265	6864	5	11.47	291.3
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.91	759.6	29.95	760.7	42.7	6.0	88	6	1	4	2	9	1	3	.....	5	6113	9840	6	4.04	102.4
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.92	759.9	29.94	760.4	57.0	13.9	85	1	.....	.....	5	3	5	1	2	14	4871	7838	7	3.48	88.4
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.95	760.7	29.95	760.7	54.7	12.6	88	5	1	1	.....	5	8	4	.....	7	6759	10877	6	3.37	85.5
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.93	760.1	29.93	760.3	62.7	17.1	82	.....	2	3	7	5	1	9	3	1	.....	.....	9	10.83	275.0
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.91	759.6	29.93	760.1	62.5	16.9	78	4	1	7	1	.....	.....	3	8	7	4590	7387	6	8.08	204.6
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.94	760.4	29.92	760.0	59.1	15.1	84	6	1	4	.....	2	.....	5	6	7	4350	7001	7	7.22	183.5
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.79	756.7	29.92	760.0	60.7	16.0	87	.....	2	2	.....	.....	.....	10	2	15	.....	.....	6	11.92	302.8
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.85	758.2	29.89	759.2	46.2	7.9	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	4.16	105.9
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.86	758.5	29.92	760.0	49.1	9.5	82	4	2	.....	.....	8	7	.....	.....	10	7054	11350	4	1.80	45.8
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.89	759.3	29.94	760.6	60.2	15.7	84	3	.....	.....	1	13	3	8	3	.....	6398	10297	8	6.46	164.1
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.89	759 2	29.91	759.8	63.3	17.4	78	4	1	1	1	7	.....	.....	5	12	2715	4369	6	9.56	242.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.89	759.2	30.08	764.0	74.6	23.7	65	1	.....	.....	.....	.....	14	15	1	.....	.....	.....	5	1.88	47.8
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.68	601,6	29.83	757.7	61.7	16.5	52	4	.....	2	5	3	4	1	12	.....	.....	.....	1	0.06	1.6
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.32	617.7	29.92	760.0	59.2	15.1	67	5	15	5	4	1	.....	.....	1	.....	.....	.....	3	0.43	10.9
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.70	754.3	29.90	759.4	74.7	23.7	87	.....	.....	.....	.....	.....	7	17	7	.....	.....	.....	4	0	0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.09	586.4	30.10	764.5	53.8	12.1	61	.....	1	.....	.....	1	.....	.....	.....	29	.....	.....	3	0.42	10.6
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.98	761.5	30.00	762.0	59.9	15.5	.....	2	.....	4	9	3	5	4	4	.....	.....	.....	.....	3.35	85.0
Groningen *a*	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.91	759.6	29.98	761.5	58.3	14.6	.....	4	3	6	2	2	3	4	7	.....	.....	.....	.....	2.87	72.8
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.97	761.2	29.99	761.7	54.3	12.4	.....	3	1	2	10	3	.....	3	9	.....	.....	.....	.....	1.49	37.9
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.97	761.3	29.93	761.8	60.8	16.0	.....	.....	3	6	8	3	.....	.....	4	7	.....	.....	.....	2.22	56.4
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.95	760.6	30.01	762.3	62.4	16.9	.....	10	1	3	4	9	1	1	2	.....	.....	.....	5	3.07	78.0
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.73	755.1	79.9	26.6	.....	1	.....	1	1	5	2	5	6	10	.....	.....	7	4.29	109.
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.84	758.0	29.95	760.6	50.5	10.3	63	2	3	3	.....	12	1	.....	1	9	.....	.....	7	5.83	148.0
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.82	757.5	29.91	759 8	47.1	8.4	70	8	.....	5	5	2	2	4	.....	5	.....	.....	8	3.56	90.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.75	755 7	29.94	760.5	55.4	13.0	48	.....	4	2	9	11	.....	.....	2	3	.....	.....	6	2.17	55.2
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.89	759.2	29.98	761.4	41.2	5.1	.....	.....	.....	.....	3	6	.....	4	8	2	8	.....	7	1.31	33.2
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.07	763.7	30.12	765.1	67.6	19.8	60	..v	2	1	20	1	3	.....	2	2	.....	.....	5	0.08	2.0
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.72	754.9	30.04	762.9	63.7	17.6	62	5	2	4	9	7	.....	2	2	.....	.....	.....	6	2.88	73.2
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.12	795.0	30.17	766.4	65.8	18.8	68	6	4	2	6	3	2	1	5	2	.....	.....	4	2.52	64.0
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.97	761.3	29.95	760.6	77.0	25.0	65	22	.....	.....	.....	.....	.....	1	8	.....	.....	.....	4	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.06	712.8	29.82	757.4	78.6	25.9	75	.....	1	1	9	1	.....	.....	.....	19	.....	.....	7	4.93	125.2
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.25	641.4	29.97	761.1	47.7	8.7	73	1	4	3	5	4	4	5	5	.....	.....	.....	6	11.24	285.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.87	758.7	30.03	762.7	66.6	19.2	65	.....	.....	2	4	10	4	7	4	.....	.....	.....	5	0.39	9.9
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.93	760.3	29.99	761.8	66.4	19.1	55	1	17	4	1	3	3	.....	.....	2	2004	3223	6	1.75	44.5
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.06	687.4	29.96	761.0	62.2	16.8	50	3	1	5	10	9	1	1	1	.....	5574	8971	5	1.73	43.9
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.80	706.2	29.97	761.3	67.5	19.7	47	1	.....	7	8	8	1	1	.....	5	6752	10865	4	1.90	48.3
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.06	738.2	29.97	761.3	62.4	16.9	65	3	3	2	11	4	2	.....	4	2	4283	6893	7	6.00	152.3
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.97	761.2	29.99	761.7	73.8	23.2	84	1	.....	.....	1	2	5	19	3	.....	.....	.....	3	3.06	77.5
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.83	757.7	29.82	757.4	83.2	28.4	77	1	1	1	3	1	11	12	1	.....	3842	7116	4	4.22	107.1
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.98	761.5	30.06	763.5	70.9	21.1	56	2	1	17	2	5	.....	4	.....	.....	.....	.....	4	0.50	12.7
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.97	761.1	29.99	761.7	80.6	27.0	78	.....	.....	.....	.....	4	10	8	2	7	.....	.....	4	2.52	64.0
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.85	758.2	29.94	760.5	44.1	6.7	68	3	.....	3	5	8	2	2	6	2	.....	.....	7	1.85	47.1
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.82	757.3	29.91	759.8	48.6	9.2	69	.....	3	2	14	3	1	2	6	.....	.....	.....	7	2.91	73.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.84	757.9	29.93	760.3	49.8	9.9	64	5	1	2	2	10	.....	1	4	6	.....	.....	7	4.82	122.4
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.75	755.6	29.96	761.0	54.3	12 4	56	8	.....	10	.....	4	4	3	2	.....	.....	.....	5	1.44	36.6
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.85	758.3	29.95	760.6	52.3	11.3	66	5	2	12	4	1	.....	3	4	.....	.....	.....	2	0.52	13.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.80	757 0	29.93	760.2	55.8	13.2	53	2	6	3	7	7	1	4	1	.....	.....	.....	6	1.86	47.2
SWISS.																										
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.61	726.6	30.01	762.3	61.5	16.4	53	17	.....	1	6	6	.....	1	.....	.....	.....	.....	5	3.81	96.8
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.97	761.2	65.8	18.8	59	8	3	1	13	1	.....	.....	5	.....	.....	.....	5	1.49	37.8
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	.....	.....	72.5	22.5	.....	.....	8	2	16	3	1	.....	1	.....	.....	.....	4	5.04	128.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.92	759.9	74.1	23.4	60	.....	6	10	11	.....	.....	.....	.....	4	.....	.....	4	0.36	9.1
UNITED STATES.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.83	757.7	29.90	759.4	46.2	7.9	82	7	1	1	.....	8	1	1	4	8	4523	7279	5	3.49	88.6
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.80	756.9	29.90	759.4	51.2	10.7	77	3	7	5	3	5	2	1	4	1	5557	8923	5	4.07	103.4
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.67	601.2	29.85	758.2	32.5	0.3	92	1	10	8	5	2	2	2	1	.....	.....	.....	2	3.25	82.5
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.79	756.7	29.92	760.0	53.9	12.2	69	2	5	7	5	1	2	4	5	.....	8640	13904	5	3.08	78.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.89	759.2	29.91	759.7	51.6	10.9	87	8	1	1	8	1	3	2	7	.....	10533	16951	5	4.14	105.2
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.89	759.2	29.93	760 2	55.2	12.9	74	2	5	2	9	.....	4	3	6	.....	5359	8624	6	3.45	87.6
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.82	757.4	29.94	760.5	53.1	11.7	75	5	1	6	3	2	2	.....	9	3	5703	9274	6	2.74	69.6
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.86	758.4	29.94	760.5	54.6	12.6	69	3	6	2	1	10	4	.....	2	3	4326	6962	5	3.40	86.4
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.77	756.1	29.93	760.2	54.9	12.7	76	4	6	2	7	.....	.....	3	7	2	6384	10274	5	6.53	165.9
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.83	757.7	29.94	760.5	56.6	13.7	79	2	7	2	3	5	1	3	5	3	7264	11690	6	4.50	114.3
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.92	760.0	29.94	760.5	54.1	12.3	84	3	6	5	7	.....	1	7	2	.....	11601	17050	6	8.46	214.9
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.94	760.5	29.94	760.5	54.4	12.4	85	4	5	2	8	2	5	2	3	.....	7136	11484	5	4.15	105.4
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.90	759.4	29.94	760.5	57.8	14.3	75	2	9	1	5	2	3	3	6	.....	4235	6815	6	7.07	179.6
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.85	758.2	29.95	760.7	57.1	13.9	86	6	7	.....	3	5	2	3	5	.....	4110	6614	6	10.60	269.2
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.94	760.5	29.92	760.0	58.3	14.6	85	6	3	2	5	8	2	1	4	.....	9685	15586	5	6.18	157.0

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for May, 1886.																				Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.											Average Cloudiness.		
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. STATES—Con.																											
M.At.States—Con	° ′	° ′																									
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.94	760.5	29.94	760.5	60.8	16.0	82	2	3	4	9	2	3	4	4	.....	10796	17374	5	7.25	184.2
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.28	743.7	29.94	760.5	60.0	15.6	86	1	6	2	6	8	1	1	6	.....	2915	4691	6	6.74	171.2
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.93	760 2	29.94	760.5	61.0	16.1	82	4	2	1	5	7	5	1	3	3	4732	7615	6	8.32	211.3
S. Atlantic states.																											184.7
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	29.96	761.0	29.95	760.7	62.2	16.8	80	5	2	5	10	2	2	2	3	.....	11494	18497	6	7.27	68.8
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.97	761.2	29.96	761.0	65.7	18.7	81	5	1	7	10	3	1	.....	3	1	8166	13142	4	2.71	59.2
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	29.98	761.5	29.96	761.0	66.4	19.1	82	.....	6	3	14	2	2	1	3	.....	11758	18922	5	2.33	37.1
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.95	760.7	29.96	761.0	67.5	19.7	82	2	7	10	4	2	3	1	2	.....	8879	14289	3	1.46	30.0
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	29.95	760.7	29.98	761.5	66.7	19.3	77	2	3	7	10	3	2	.....	4	.....	5767	9295	5	1.18	280.4
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.17	740.9	29.98	761.5	62.4	16.9	86	4	5	5	10	1	1	1	3	1	4007	6439	5	11.04	25.4
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.98	761.5	30.00	762.0	69.2	20.7	77	3	3	6	8	2	3	1	2	3	6217	10005	3	1.00	159.8
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.85	758.2	30.00	762.0	65.6	18.7	78	2	5	1	3	7	5	1	3	4	2785	4482	3	6.29	111.0
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.94	760.5	30.00	762.0	70.4	21.3	78	.....	6	10	5	3	5	.....	2	.....	5926	9537	3	4.37	71.4
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.01	762.2	30.02	762.5	70.8	21.6	78	.....	4	5	5	4	4	2	2	5	4619	7433	3	2.81	
Florida penin'la.																											18.0
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.01	762.2	29.99	761.7	71.3	21.8	80	1	4	12	2	2	4	1	3	2	6453	10385	4	0.71	2.8
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.03	762.7	30.00	762.0	78.2	25.7	76	5	1	2	2	1	5	8	6	1	6988	11246	5	0.11	22.6
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.02	762.5	30.01	762.2	69.9	21.1	86	3	5	6	4	2	4	3	3	1	3927	6320	4	0.89	
East Gulf states.																											157.7
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28 87	733.3	30.01	762.2	61.1	16.2	80	.....	5	8	7	2	2	4	3	.....	7091	11412	3	6.21	19.0
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.01	762.2	30.00	762.0	69.5	20.8	81	5	.....	6	7	1	2	.....	4	6	6542	10528	4	0.75	32.3
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.00	762.0	30.00	762.0	66.5	19.2	88	8	9	2	6	3	.....	1	2	.....	6115	9841	4	1.27	74.9
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.81	757.2	30.01	762.2	65.4	18.6	84	3	5	1	9	8	2	1	1	1	3819	6146	3	2.95	38.6
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.80	756.9	30.00	762.0	67.1	19.5	81	3	1	3	9	4	3	3	4	1	5208	8381	5	1.52	78.0
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.97	761.2	29.99	761.7	67.8	19.9	86	1	.....	6	3	.....	6	2	7	6	4577	7366	3	3.07	
West Gulf states																											2.0
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.78	756.4	29.98	761.5	66.7	19.3	83	3	2	1	3	13	3	2	3	1	4514	7264	3	0.08	9.7
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.48	748.8	29.94	760.5	63.7	17.6	91	.....	1	2	1	3	5	14	1	4	2671	4298	3	0.38	28.7
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.66	753 4	29.93	760.2	64.8	18.2	86	3	6	1	4	7	.....	1	2	7	4443	7150	5	1.13	0.8
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.99	761.7	29.99	761.7	72.2	22.3	84	1	1	2	6	11	3	1	3	3	8414	13541	4	0.03	5.1
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.96	761.0	29.95	760.7	71.4	21.9	88	2	.....	2	4	13	4	1	2	3	10275	16536	4	0.20	7.6
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.48	748.8	30.00	762.0	66.6	19.2	83	1	2	1	5	14	....	3	4	1	6424	10338	4	0.30	66.3
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.18	741.2	29.94	760.5	65.4	18.6	87	5	.....	2	.....	10	4	2	7	1	5845	9406	7	2.61	
Rio Grande valley.																											166.9
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.91	759.7	29.92	760.0	70.6	21.4	94	1	.....	1	4	11	6	4	2	2	6635	10678	4	6.57	40.1
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.76	755.9	29.91	759.7	70.6	21.4	85	3	.....	1	.....	.....	12	9	3	3	5424	8729	4	1.58	
Ohio val. & Tenn.																											143.0
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.21	741.9	30.00	762.0	61.4	16.3	81	2	3	6	9	2	2	1	6	.....	4356	7010	4	5.63	125.0
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.00	736.6	29.99	761.7	60.3	15.7	87	2	.....	9	2	2	.....	3	6	7	3993	6426	4	4.92	53.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.67	753.6	29.98	761.5	65.3	18.5	78	1	6	3	1	8	4	1	6	1	5159	8302	5	2.11	53.3
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.41	747.0	29.96	761.0	61.5	16.4	82	1	11	6	3	5	2	1	2	.....	4773	7681	5	2.10	102.4
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.40	746.7	29.96	761.0	60.4	15.8	80	4	5	2	1	4	2	1	4	8	4484	7216	5	4.03	60.2
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.03	737.3	29.95	760.7	56.7	13.7	82	4	5	.....	6	5	4	2	5	.....	4261	6857	3	2.37	97.0
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.16	740.7	29.94	760.5	57.3	14.1	82	5	5	.....	7	6	2	2	3	1	3477	5596	5	3.82	104.4
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.31	744.5	29.95	760.7	58.7	14.8	80	2	7	1	6	4	2	1	5	3	4928	7931	5	4.11	194.8
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.11	739.4	29.95	760.7	55.8	13.2	81	7	4	1	4	3	5	1	4	2	4840	7789	5	7.67	89.2
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.06	738.1	29.94	760.5	55.9	13.3	83	1	6	3	2	5	2	.....	6	6	3938	6338	6	3.51	
Lower lake region.																											75.7
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.26	743.2	29.91	759.7	51.3	10.7	83	2	1	7	11	3	3	2	1	1	7514	12092	5	2.98	119.1
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.20	741.7	29.93	760.2	50.5	10.3	84	5	1	2	13	4	3	2	1	.....	6614	10644	5	4.69	48.8
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.56	750 8	29.92	760.0	50.1	10.1	77	2	3	12	.....	7	5	.....	1	1	6709	10797	5	1.92	37.6
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.20	741 7	29.92	760.0	54.7	12.6	71	2	3	1	8	7	5	1	4	.....	5983	9628	5	1.48	93.7
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.28	743.7	29.94	760.5	56.0	13.3	77	3	3	3	11	5	3	1	2	.....	7791	12538	5	3.69	42.7
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.20	741.7	29.92	760.0	54.8	12.7	83	3	2	3	5	6	88	.....	4	.....	5433	8743	5	1.68	114.3
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.27	743 4	29.95	760.7	53.2	11.8	76	6	5	6	6	3	2	1	2	.....	5387	8669	4	4.50	59.2
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.25	742 9	29.94	760.5	53.2	11.8	80	6	4	3	5	1	4	1	7	.....	6105	9825	5	2.33	
Upper lake region																											45.0
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.28	743.7	29.94	760.5	46.6	8.1	81	2	9	9	2	3	.....	3	2	1	6661	10720	5	1.77	38.9
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.29	744.0	29.95	760.7	46.0	7.8	74	11	5	.....	6	5	.....	.....	4	.....	5476	8813	7	1.53	50.5
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.29	744.0	29.95	760.7	49.8	9.9	80	3	3	2	3	7	1	6	5	1	7572	12186	5	1.99	25.7
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.28	743 7	29.94	760.5	46.9	8.3	78	1	6	6	7	2	1	5	1	2	6611	10639	6	1.01	29.7
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.22	742.2	29.95	760.7	48.0	8.9	68	4	9	10	4	3	.....	.....	1	1	6093	9806	5	1.17	109.0
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.27	743.4	29.95	760.7	48.0	8.9	81	8	3	4	2	7	2	2	3	.....	6117	9844	5	4.29	25.4
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.26	743.2	29.95	760.7	53.7	12.1	77	5	5	2	6	1	4	.....	7	1	5752	9257	4	1.00	67.8
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.22	742 2	29.96	761.0	51.3	10.7	75	9	6	4	5	2	.....	.....	3	2	7008	11278	4	2.67	49.0
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.23	742 4	29.97	761.2	47.0	8.3	77	5	8	1	2	1	3	.....	9	2	4992	8034	4	1.93	
Upper Miss. val.																											20.8
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.07	738.4	29.94	760.5	51.7	10.9	81	.....	5	6	2	1	3	2	5	7	4454	7168	5	0.82	22.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.21	741.9	29.97	761.2	55.5	13.1	77	8	5	2	1	11	2	.....	2	.....	5024	8085	4	0.89	94.7
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.32	744.7	29.96	761.0	56.4	13.6	78	4	5	2	4	3	3	5	.....	.....	4503	7247	5	3.73	101.9
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.08	738.6	29.96	761.0	56.6	13.7	85	3	1	2	4	3	3	3	5	7	2933	4720	6	4.01	105.9
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.26	743.2	29.95	760.7	53.8	12.1	70	3	5	2	4	3	1	2	4	7	3230	5198	6	4.17	114.0
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.31	744.5	29.95	760.7	57.0	13.9	85	5	2	.....	3	1	6	4	7	3	4539	7305	3	4.49	75.7
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.61	752.1	29.96	761.0	62.6	17.0	83	5	3	1	3	7	4	4	3	1	5899	9493	5	2.98	90.4
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.31	744.5	29.96	761.0	59.0	15.0	75	1	3	1	6	5	1	4	6	4	5427	8734	4	3.56	199.1
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.37	746.0	29.95	760.7	63.0	17.2	82	6	5	.....	5	5	3	1	4	2	6890	11103	4	7.84	
Missouri valley.																											119.6
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.10	739.1	29.96	761.0	60.2	15.7	84	7	4	.....	1	6	3	2	4	4	4005	6435	4	4.71	116.3
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.82	732.0	29.96	761.0	57.0	13.9	81	3	7	2	2	3	3	2	.....	9	4269	6870	4	4.58	21.8
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.27	718.0	.....	.....	52.9	11.6	75	1	6	3	.....	4	9	.....	3	5	5998	9653	5	0.86	40.1
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.58	725.9	29.93	760.2	49.6	9.8	84	4	7	.....	1	5	8	2	2	2	5548	8928	5	1.58	86.1
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	376	28.66	728 0	29.94	760.5	52.6	11.4	87	5	4	1	3	6	3	4	3	2	4705	7582	5	3.39	91.2
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.90	734.0	29.95	760.7	61.7	16.5	82	4	1	.....	2	13	4	6	1	.....	6513	10481	4	3.59	82.8
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2563	793	27.29	693 2	29.92	760.0	52.2	11.2	72	4	2	5	8	3	2	3	2	2	8113	13056	5	3.26	
Extreme N'thwest.																											63.8
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28 96	735.6	29.94	760.5	48.8	9.3	76	5	5	3	5	7	4	1	1	.....	8264	13299	4	2.51	38.9
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.08	738 6	29.96	761.0	47.0	8.3	83	6	7	3	3	7	2	1	1	1	7216	11613	4	1.53	43.9
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.15	715 0	29.94	760.5	49.2	9.6	78	5	5	2	2	1	4	3	4	5	5777	9297	4	1.73	36.6
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.91	708.9	29.92	760.0	47.1	8.4	75	3	3	8	3	4	2	3	5	.....	7698	12388	5	1.44	69.8
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.34	719 8	29.93	760.2	45.3	7.4	81	3	6	6	2	3	3	2	4	2	10235	16471	5	2.75	
Northern slope.																											25.1
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.14	689.3	30.00	762 0	46.8	8.2	58	5	7	3	3	1	3	3	6	.....	8425	13558	4	0.99	9.1
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.21	691.1	30.00	762.0	45.6	7.6	78	1	.....	7	1	.....	.....	.....	3	19	2927	4700	3	0.36	14.2
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.84	681.7	29.94	760.5	40.5	8.1	72	4	1	2	5	5	9	1	1	3	5020	8079	5	0.56	13.7
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.56	649.2	29.97	761.2	43.6	6.4	62	10	4	8	1	3	2	2	1	.....	8242	13264	5	0.54	16.0
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.35	669.3	29.96	761.0	44.2	6.8	64	1	2	16	3	.....	2	2	3	3	4795	7718	3	0.63	10.2
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.85	656.6	29.97	761.2	45.5	7.5	66	.....	5	3	19	4	.....	.....	.....	.....	6219	10008	4	0.40	34.3
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2600	610	27.83	706.9	29.96	761.0	44.7	7.1	76	4	5	8	1	3	2	2	5	1	6852	11027	3	1.35	25.7
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.40	645 1	29.92	760.0	47.6	8.7	72	1	.....	.....	10	3	.....	.....	.....	17	2186	3518	3	1.01	8.1
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.08	611.6	29.96	761.0	42.2	5.7	64	1	18	3	.....	.....	1	1	.....	7	6269	10089	2	0.32	93.2
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.08	687.8	29.93	760.2	53.0	11.7	81	5	2	8	2	3	6	2	2	1	6131	9867	4	3.67	

RESULT OF SIMULTANEOUS OBSERVATIONS FOR MAY, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity.	WIND. Directions. N	NW	W	SW	S	SE	E	NE	C	WIND. Total Movement. Miles	Kil.	Average Cloudiness.	TOTAL PRECIPITATION. Inch.	Mill.
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.													0–10		
U. STATES—Con.	° ′	°																								
Middle slope.																										
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	14134	4308	17.92	455.2	29.97	761.2	22.3	—5.4	76	10	5	10	5	.....	.....	.....	1	... ...	14717	23584	1	0.40	10.2
Concordia	N. 38 35	W. 97 41	5.29 a.m.	1384	422	28.48	723.4	29.90	759.4	56.6	13.7	89	5	1	3	2	4	1	6	7	2	6163	9918	3	4 65	118.1
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.80	629.9	29.95	760.7	47.3	8.5	56	2	2	1	4	18	2	1	1	.....	5600	9012	3	0.09	2.3
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899	1188	26.10	662.9	29.93	760.2	51.4	10.8	70	2	2	14	3	1	2	4	3	.....	6200	9978	3	0.25	6.3
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.39	695.7	29.91	759.7	57.1	13.9	81	3	8	6	1	5	4	1	1	2	8319	13388	3	0.40	10.2
Fort Elliott	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.22	691.4	29.90	759.4	59.1	15.1	70	6	3	4	3	4	4	.....	3	4	7855	12641	3	0.23	5.8
Southern slope.																										
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28 73	729.7	29.92	760.0	64.6	18.1	71	8	1	1	1	13	3	3	1	.....	7625	12271	3	0.07	1.8
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.19	716.0	29.98	761.5	66.5	19.2	70	1	2	.....	1	20	1	1	1	4	7854	12640	3	0.33	8.4
Fort Stockton	N. 30 53	W.102 53	5.08 a.m.	3004	916	26.99	685.5	29.96	761.0	62.7	17.1	54	1	1	1	1	17	8	.....	.....	2	6927	11148	1	0.25	6.3
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25.22	640.6	29.90	759.4	61.5	16.4	37	1	5	5	10	2	1	1	2	4	5622	9048	2	0.17	4.3
Fort Stanton	N. 33 30	W.105 26	4.58 a.m.	6100?	1859?	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Southern plateau.																										
Keeler	N. 36 35	W.117 50	4.09 a.m.	3622	1104	26.28	667.5	.....	.....	59.0	15.0	43	11	2	1	.....	1	2	7	6	1	5161	8306	1	0	0
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	23.36	593.3	29.98	761.5	49.4	9.7	44	4	.....	.....	1	1	3	14	7	1	5459	8785	2	0.21	5.3
Fort Thomas	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.20	690.9	29.84	757.9	53.1	11.7	48	2	3	7	2	5	3	4	4	1	3317	5338	1	0	0
Fort Apache	N. 33 48	W.109 57	4.40 a.m.	5050	1539	25.08	637.0	29.88	758.9	46.5	8.1	49	1	.....	1	5	2	.....	.....	22	.....	5923	9532	1	0	0
Fort Grant	N. 32 39	W.109 57	4.40 a.m.	4856	1480	25.22	640.6	29.80	756.9	57.8	14.3	36	6	3	.....	.....	2	.....	13	4	3	5644	9083	2	0.04	1.0
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.76	628.9	29.88	758.9	47.0	8.3	58	.....	.....	1	2	2	1	.....	1	24	5942	9562	2	0.03	0.8
Yuma	N. 32 45	W.114 36	4.22 a.m.	141	43	29.72	754.9	29.84	757.9	66.8	19.3	64	4	2	8	3	4	1	3	2	4	4885	7862	4	0	0
El Paso	N. 31 47	W.106 30	4.54 a.m.	3764	1147	26.27	667.2	29.88	758.9	63.5	17.5	44	2	3	11	.....	.....	.....	7	3	5	3067	4936	3	0.01	0.3
Middle plateau.																										
Fort Bridger	N. 41 28	W.110 30	4.38 a.m.	6643?	2025?	23.56	598.4	.....	.....	38.2	3.4	70	2	3	1	18	6	.....	1	.....	.....	6314	10161	4	0.20	5.1
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25.64	651.2	29.95	760.7	52.2	11.2	80	9	.....	.....	1	8	5	3	4	4352	7004	4	0.06	1.5
Frisco	N. 38 25	W.113 16	4.27 a.m	6400	1950	23.74	603.0	.....	.....	52.6	11.4	37	2	2	.....	24	.....	1	.....	2	.....	10268	16524	1	Inap.	Inap.
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25.64	651.2	29.97	761.2	42.5	5.8	46	1	.....	.....	12	4	.....	1	12	1	6240	10042	2	0.14	3.6
Montrose	N. 38 30	W.107 56	4.48 a.m.	5780	1762	24.35	618 5	29.98	761.5	48.0	8.9	52	.....	.....	1	2	7	15	3	3	.....	6319	10169	2	0.57	14.5
Fort Bidwell	N. 41 53	W.120 11	3.59 a.m.	4640	1414	25.40	615.1	.....	.....	44.3	6.8	55	3	.....	20	8	.....	.....	.....	.....	.....	3968	6386	4	1.44	36.6
Northern plateau.																										
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.18	690.4	30.02	762.5	46.5	8.1	75	.....	3	1	1	.....	5	10	2	9	3122	5024	3	0.61	15.5
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	27.97	710.4	30.03	762.7	47.8	8.8	55	.....	.....	11	6	1	.....	1	2	10	4324	6959	3	0.92	23.4
Walla Walla	N. 46 03	W.118 18	4.07 a.m.	1018	310	28.94	735.1	.....	.....	52.2	11.2	59	2	.....	2	15	9	3	.....	.....	.....	5177	8332	4	0.67	17.0
N.Pac. coast reg'n																										
Fort Canby	N. 46 16	W.124 04	3.44 a.m.	179	55	29.82	757.4	30.02	762.5	49.3	9.6	87	5	.....	9	10	4	2	.....	.....	1	7472	12025	8	3.43	87.1
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	30.01	762.2	30.05	763 3	44.5	6.9	95	1	.....	.....	1	18	2	.....	4	4	3000	4828	5	1.90	48.3
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	30.01	762.2	30.03	762 7	41.5	5.3	94	.....	.....	.....	.....	30	.....	1	.....	.....	3831	6165	5	0.77	19.6
Tatoosh Id	N. 48 23	W.124 44	3.41 a.m.	86	26	29.93	760.2	30.03	762.7	48.5	9.2	88	.....	5	3	3	2	7	8	3	.....	7323	11785	7	3.45	87.6
Portland	N. 45 32	W.122 43	3.49 a.m	80	24	29.96	761.0	30.05	763.3	49.6	9.8	87	3	7	.....	1	9	3	.....	.....	8	4130	6646	6	1.32	33.5
Roseburg	N. 43 13	W.123 20	3.47 a.m.	523	159	29.50	749.3	30.06	763.5	47.2	8.4	88	.....	3	.....	.....	.....	... ..	3	.....	25	1673	2692	6	1.11	28.2
Mid.Pac.coast reg																										
Cape Mendocino	N. 40 26	W.124 24	3.42 a.m.	637	194	29.35	745.5	30.02	762.5	48.0	8.9	87	9	6	.....	.....	2	9	.....	1	1	18018	28997	5	0.35	8.9
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.66	753 4	29.99	761.7	56.7	13.7	78	3	6	.....	3	7	3	.....	2	7	5187	8348	4	0.73	18.5
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	29.95	760.7	30.00	762.0	53.5	11.9	86	.....	1	.....	5	6	18	.....	.....	1	5467	8788	2	0.07	1.8
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	29.99	761.7	30.04	763.0	53.5	11.9	82	.....	.....	10	14	6	.....	.....	1	.....	7583	12203	5	0.37	9.4
S. Pac.coast reg'n.																										
Los Angeles	N. 34 03	W.118 15	4.07 a.m.	339	103	29.65	753.1	29.98	761.5	52.7	11.5	89	2	.....	5	.....	1	2	7	12	2	4285	6896	4	0.01	0.3
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.94	760.5	29.98	761.5	56.1	13.4	85	11	2	3	3	2	.....	7	3	.....	4883	7858	6	0.04	1.0
Alaska stations.																										
Fort Alexander	N. 58 57	W.158 18	1.27 a.m.	18	5	29.85	758.2	29.97	761.2	34.8	1.6	87	1	1	2	7	6	6	3	5	.....	.....	.....	8	2.39	60.7
Ft. St. Michael's	N. 63 48	W.161 48	1.13 a.m.	30	9	29.78	756.4	29.86	758.4	30.2	—1.0	89	2	2	3	7	9	.....	3	3	2	11298	18183	8	1.53	38.9
Sitka	N. 57 03	W.135 19	2.59 a m.	63	19	29.85	758.2	29.95	760.7	42.6	5.9	79	.....	1	5	13	.....	4	3	.....	5	6113	9838	6	3.68	93.5
Unalashka	N 53 53	W.166 32	0.54 a.m.	13	4	29.94	760 5	29.98	761.5	40.0	4.4	78	1	3	1	5	1	10	.....	1	.....	5048	9089	7	3.71	94.2
Sub-Series.																										
Behring's Island	N. 55 12	E.165 55	11.04 p.m.	20	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	79.6	26.4	86	.....	.....	... ...	.....	.....	7	24	.....	.....	.....	.....	5	9.77	248.2
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	76.3	24.6	81	6	6	.....	1	3	3	6	6	.....	.....	.....	3	24.91	632.7
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	64.1	17.8	.....	.....	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.64	371.8
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.88	758.9	29.90	759.4	.....	.....	.....	6	2	5	2	.....	.....	.....	2	14	.....	.....	1	.....	.....

OCEAN SQUARE DATA FOR MAY, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.90	759.4	79.1	26.2	1						1	29			4.3
12.5 27.5	29.94	760.5	79.0	26.1							1	30			4.5
12.5 32.5	29.96	761.0	79.5	26.4							8	23			4.4
12.5 37.5	29.98	761.5	80.1	26.7						2	16	13			4.3
12.5 42.5	29.98	761.5	79.9	26.6						3	23	5			4.4
12.5 47.5	29.97	761.2	80.0	26.7						3	26	2			4.5
12.5 52.5	29.97	761.2	80.0	26.7						6	25				4.0
17.5 22.5	29.95	760.7	76.4	24.7	1						9	21			4.2
17.5 27.5	29.98	761.5	77.0	25.0							3	28			4.9
17.5 32.5	30.02	762.5	77.3	25.2							14	17			4.7
17.5 37.5	30.04	763.0	77.9	25.5						2	24	5			4.1
17.5 42.5	30.03	762.7	78.4	25.8						8	22	1			4.2
17.5 47.5	30.02	762.5	79.0	25.1					1	10	19	1			4.2
17.5 52.5	29.99	761.7	80.0	26.7					3	9	18			1	4.1
17.5 57.5	29.96	761.0	82.1	27.8	3				1	4	21	2			3.7
22.5 22.5	30.04	763.0	74.6	23.7	3						14	14			4.0
22.5 27.5	30.07	763.8	74.8	23.8	3						13	15			3.9
22.5 32.5	30.10	764.5	75.1	23.9						2	10	13			3.8
22.5 37.5	30.11	764.8	75.6	24.2	1				2	3	21	4			4.1
22.5 42.5	30.10	764.5	76.0	24.4	1			1	2	11	15	1			4.1
22.5 47.5	30.08	764.0	76.7	24.8	1			1	2	13	13	1			4.0
22.5 52.5	30.04	763.0	77.9	25.5	1	1		2	4	12	10	1			4.2
22.5 57.5	30.01	762.2	78.9	26.1	3	3			5	6	9	5			3.5
22.5 62.5	30.03	762.7	78.9	26.1	5			1	5	6	8	5	1		3.1
22.5 67.5	30.02	762.5	79.0	26.1	4		2		5	4	13	3			3.3
22.5 72.5	30.01	762.2	80.0	26.7	3		2		3	5	8	8	2		3.3
27.5 22.5	30.12	765.0	71.5	21.9	9						8	14			3.8
27.5 27.5	30.15	765.8	71.8	22.1	9				1	2	8	11			3.7
27.5 32.5	30.18	766.6	72.3	22.4	5			1	4		10	11			3.5
27.5 37.5	30.18	766.6	72.8	22.7	1	1	1	2	3	8	9	5	1		3.7
27.5 42.5	30.15	765.8	73.2	22.9		1		4	1	16	5	4			4.0
27.5 47.5	30.12	765.0	73.7	23.2	1			3	5	12	9	1			3.9
27.5 52.5	30.06	763.5	74.3	23.5	1		3	1	10	8	4	2		2	4.1
27.5 57.5	30.03	762.7	74.4	23.6	3	3	2	2	7	3	4	4	1	2	3.8
27.5 62.5	30.04	763.0	74.1	23.4	5	2	2	5	6	3	3	3	1	1	3.7
27.5 67.5	30.03	762.7	74.9	23.8	6	1	4	4	3	4	3	5	1		3.3
27.5 72.5	30.02	762.5	76.6	24.8	4	3	4	2	8	1	4	4	1		3.5
27.5 77.5	30.02	762.5	77.4	25.2	3	4	2	2	7	2	7	3	1		3.7
32.5 12.5	30.09	764.3	68.7	20.4	7	2	4	1		1	4	12			3.7
32.5 17.5	30.13	765.3	67.8	19.9	11	3	6		2		1	7	1		3.0
32.5 22.5	30.17	766.3	68.3	20.2	13	3		1	4	1	3	7			3.5
32.5 27.5	30.19	766.8	68.9	20.5	10	2		1	5	1	6	6			3.8
32.5 32.5	30.21	767.3	69.3	20.7	6	1	1	5	3	2	4	9			3.9
32.5 37.5	30.21	767.3	69.4	20.8	2	4		6	2	5	5	7			4.0
32.5 42.5	30.17	766.3	69.6	20.9	4	1	4	3	2	13	2	1	1		3.9
32.5 47.5	30.12	765.0	69.6	20.9	2	2	3	1	6	11	4	2			4.0
32.5 52.5	30.07	763.8	70.0	21.1	4	1	2	5	4	11	2	1		1	4.1
32.5 57.5	30.03	762.7	69.9	21.1	6	1	2	2	7	2	4	5	1	1	4.0
32.5 62.5	30.02	762.5	69.0	20.6	5	2	3	7	10			4			4.1
32.5 67.5	30.00	762.0	70.1	21.2	6	2	5	6	5	2	3	2			4.0
32.5 72.5	30.00	762.0	70.6	21.4	7	1	3	7	7		1	4	1		3.7
32.5 77.5	29.99	761.7	70.5	21.4	3	3	9	6	6	2		2			4.0
37.5 12.5	30.08	764.0	64.7	18.2	9	6	7	2	2	1		3	1		3.9
37.5 17.5	30.13	765.3	65.0	18.3	5	9	5	4	1	1	2	3	1		3.7
37.5 22.5	30.16	766.1	65.7	18.7	9	5	5	6	1	1	1	3			3.9
37.5 27.5	30.18	766.6	65.8	18.8	7	4	2	7	1	3		6	1		3.9
37.5 32.5	30.20	767.1	65.9	18.8	6	3	5	4	5		3	5			4.4
37.5 37.5	30.20	767.1	65.6	18.7	4	3	1	6	5	1	3	8			4.6
37.5 42.5	30.16	766.1	64.7	18.2	5	2	4	2	9	5	3		1		4.4
37.5 47.5	30.12	765.0	63.5	17.5	4	2	2	4	6	10	2	1			4.5
37.5 52.5	30.08	764.0	63.3	17.4	3	2	5	2	7	4	4	4			4.5
37.5 57.5	30.05	763.3	64.4	18.0	7	2	2	5	5	4	2	4			4.7
37.5 62.5	29.99	761.7	63.3	17.4	4	2	3	9	5	2	5	1			5.2
37.5 67.5	29.97	761.2	63.1	17.3	6	1	1	10	6	1	3	2		1	4.9
37.5 72.5	29.96	761.0	61.8	16.6	1	5	3	8	7	3	1	2	1		3.5
42.5 12.5	29.97	761.2	61.0	16.1	5	9	8	5	1		1	1		1	3.9
42.5 17.5	30.05	763.3	61.4	16.3	8	8	5	6		1	1	1			4.7
42.5 22.5	30.10	764.5	62.0	16.7	9	9	2	5	2			3	1		4.4
42.5 27.5	30.14	765.5	62.5	16.9	8	8	3	4	4			4			4.7
42.5 32.5	30.15	765.8	62.3	16.8	6	4	4	5	3	2	1	6			4.8
42.5 37.5	30.16	766.1	61.8	16.6	4	5	3	4	6	4	2	3			4.4
42.5 42.5	30.14	765.5	60.1	15.6	4	4		7	5	4	4	2	1		4.6
42.5 47.5	30.11	764.8	53.7	12.1	5	3	2	2	7	4	4	2	2		4.0
42.5 52.5	30.08	764.0	51.1	10.6	6	2	3	3	10	2	2	3			4.3
42.5 57.5	30.04	763.0	54.9	12.7	6	2	1	6	7	4	3	2			4.5
42.5 62.5	29.96	761.0	52.3	11.3	2	2	4	9	6	1	3	4			4.3
42.5 67.5	29.91	759.7	50.5	10.3	3	3	2	9	3	2	6	2	1		4.2
47.5 12.5	29.95	760.7	56.8	13.8	4	4	10	2	5	1	2	2	1		4.9
47.5 17.5	29.97	761.2	56.7	13.7	6	7	5	3	3	2	2	3			5.2
47.5 22.5	30.03	762.7	57.5	14.2	10	8	2	4			1	6			5.4
47.5 27.5	30.08	764.0	58.0	14.4	6	6	5	5			2	7			5.0
47.5 32.5	30.12	765.0	57.1	13.9	5	3	6	4	2	1	3	5	1	1	4.9
47.5 37.5	30.13	765.3	56.8	13.8	3	6	3	5	5	2	3	3	1		4.7
47.5 42.5	30.10	764.5	52.7	11.5	3	4	2	4	9	4	1	3	1		4.4
47.5 47.5	30.05	763.3	46.2	7.9	3	4	5	6	8	3	1	1			4.0
52.5 12.5	29.90	759.4	53.4	11.9	7	4	4	2	6	2	1	5			5.1
52.5 17.5	29.93	760.2	52.6	11.4	13		2	4	4		2	6			5.5
52.5 22.5	29.98	761.5	52.7	11.5	13	3	2	4	2		2	5			5.2
52.5 27.5	30.05	763.3	52.4	11.3	9	4	4	3		1	3	7			4.8
52.5 32.5	30.08	764.0	52.3	11.3	4	7	5	3	6		3	3			4.6
52.5 37.5	30.07	763.8	51.2	10.7	4	1	6	5	7	3	2	2	1		4.6
52.5 42.5	30.05	763.3	48.3	9.1	2	4	2	10	3	5		1		4	4.3
52.5 47.5	29.99	761.7	43.5	6.4		4	1	9	4	5	1	2		5	5.8
57.5 12.5	29.93	760.2	48.7	9.3	7	2		4	2	2	4	9		1	5.2
57.5 17.5	29.95	760.7	48.1	8.9	7		1	3	1	3	2	13		1	5.5
57.5 22.5	30.00	762.0	47.5	8.6	10	1	1	4		2	2	9		2	5.3
57.5 27.5	30.03	762.7	46.8	8.2	5	4	3	4	1	2	3	6		3	4.6
57.5 32.5	30.03	762.7	46.1	7.8	2	6	4	2	5	3	1	4		4	5.3
57.5 37.5	30.00	762.0	45.0	7.2	2	2	6	4	5	3	2	2		5	5.2
57.5 42.5	30.01	762.2	42.5	5.8	1	2	2	6	7	3	2	1		7	4.8
57.5 47.5	29.93	760.2	41.7	5.4	3	2	2	2	7	4	1	1		9	5.5

REVIEW.

INTERNATIONAL METEOROLOGY FOR MAY, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of May, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Reports from European and Asiatic Russia have not been received, and data from the territory covered by these reports are necessarily omitted.

The area of lowest mean pressure is located over the interior of British India, with reported barometric minima ranging to 29.48 (748.8) at Nagpur. This area is elongated north and south and includes means of 29.50 (749.3) and 29.51 (749.5) at Jeypore and Bellary, respectively. Two areas of relatively low mean pressure, bounded by isobars of 29.90 (759.4) appear, one being central over Ireland, with barometric minimum 29.86 (758.4) at Galway, and the other occupying a limited area in the southwestern portion of the United States, and extending over northern Mexico, the Gulf of California, and Lower California, with reported mean minimum pressure 29.80 (756.9) at Fort Grant, Ariz. Over southern and eastern Asia, west of the Japanese Islands, and off the west coast of Africa, south of the seventeenth parallel, the mean pressure ranges below 29.90 (759.4). In the Saint Lawrence Valley the mean pressure ranges to 29.87 (758.7) at Quebec, while at Fort Saint Michael's, Alaska, it is reported 29.86 (758.4).

The area of highest mean pressure occupies the north Atlantic Ocean between N. 30° and 38°, and W. 30° and 40°, with mean barometric maxima ranging to 30.21 (767.3). The area of high mean pressure which commonly appears over the interior of Asia cannot be located, owing to an absence of reports. Over the north American continent an area of relatively high mean pressure, with barometric maxima ranging to 30.06 (763.5), extends along the middle Pacific coast, while over southern, central, and eastern Europe the mean pressure is generally above 30.00 (762.0).

In the United States the mean pressure is greatest in the Pacific coast region and in Florida. The isobar for 30.05 (763.3) indicates the region of greatest pressure, and is traced along the Pacific coast. The isobar for 29.85 (758.2) indicates the regions of least mean pressure; there are two of these areas, one in Arizona and New Mexico, and the other in the Saint Lawrence Valley. From New Mexico the pressure gradually increases toward the east until in Florida it reaches 30.00 (762.0) In the British Possessions in North America the mean pressure is highest on the Pacific coast in the vicinity of the fiftieth parallel, where it is slightly above 30.00 (762.0), and lowest at Quebec, where it is recorded 29.87 (758.7); between the seventy-fifth and one hundred and fifteenth meridians the mean pressure ranges between 29.90 (759.4) and 30.00 (762.0).

Over the north Atlantic Ocean the barometer gradient is 0.35 of an inch between the west coast of Ireland and N. 32°, W. 35°, and 0.41 of an inch between the latter location and the west coast of Africa in N. 8°. Over that portion of Europe from which reports have been received the mean pressure ranges from 30.04 (763.0) over Italy to 29.86 (758.4) over Ireland. In Asia the highest reported mean pressure is 29.94 (760.5) over northern Hondo, and the lowest, 29.48 (748.8), over the interior of British India. Over the eastern portion of Behring Sea the mean pressure ranges from 29.98 (761.5) at Unalashka to 29.86 (758.4) at Fort Saint Michael's.

As compared with the preceding month, April, 1886, there has been a decided decrease in mean pressure in the United States, except in the Rocky Mountain region and westward to the Pacific, where there has been an increase, the greatest being .08 of an inch in Washington Territory. The decrease has been greatest in New England and the Saint Lawrence Valley, where it amounts to .25 of an inch. From Montana southward to Arizona, New Mexico, and Texas, the mean pressure differs very little from that for April. In Canada, east of the Great Lakes, there has been a decrease in mean pressure of about 0.20 of an inch, while on the Pacific coast there has been an increase of about 0.10 of an inch.

Over the north Atlantic the permanent area of high mean pressure has largely contracted, with an increase of about 0.10 of an inch in the barometric maximum, while the area of low which extended over the entire northern portion of the ocean on the May chart has contracted to a very limited area over Ireland. Over western and southern Europe the changes in mean pressure have been slight. Over British India the mean pressure averages about 0.10 of an inch lower than in April; over the Japanese Islands there has been a decrease of about 0.10 of an inch; at Unalashka the increase amounts to 0.23 of an inch, while at Fort Saint Michael's there has been a reported decrease of 0.14 of an inch.

In the United States the mean pressure for May was about normal in Washington Territory and Oregon, and on a line extending from the northern boundary of the United States, at the meridian of one hundred and ten, southeastward to Florida. From this line southwestward the pressure was above the normal, the increase amounting to .10 in New Mexico and Arizona, while in all regions lying to the east of the line the mean pressure was below the normal by amounts ranging to .09 of an inch in New England. In Canada the mean pressure was below the normal at all stations, except on the south coast of Nova Scotia. In the British Isles the mean pressure for the month was defective, by amounts varying from .04 to .05, over the northern and eastern parts of Great Britain, and between .08 and .10 of an inch in the west of Ireland. Over the balance of Europe the reports received show that the mean pressure was generally above the normal, except in Sweden where it averaged normal, by amounts ranging from .01 in Spain to .09 of an inch in Austria. In British India the mean pressure averaged slightly above the normal. At Zi-Ka-Wei, China, and Tokei, Japan, it was .03 of an inch above the normal.

In the United States the mean temperature was normal, or slightly below, over the greater part of the country east of the Mississippi River; to the westward of the Mississippi the mean temperature averaged from 2° to 6° above the normal, except in California, where it was about normal. In Canada the mean temperature was above the normal, except in the northwestern part of Ontario. The excess in other parts of Ontario was small, but in Quebec and Nova Scotia it amounted to upwards of a degree, and at Charlottetown, P. E. I., to 2°.8. At Victoria, B. C., the mean temperature was also slightly above the normal. In the British Isles the mean temperature averaged slightly below the normal. Over the balance of Europe the mean temperature was above the normal, except in Spain and Norway, where it was about 2°.5 below, and in Sweden, where it was normal. In British India it was slightly above, while at Tokei, Japan, it was somewhat below the normal.

The following table shows the mean pressure and mean temperature for May, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last

nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	May mean of 9 (1877-'86) years.	May, 1886.	Departure.	May mean of 9 (1877-'86) years.	May, 1886.	Departure.
				°	°	°
Austro-Hungary	29.90	29.99	+ 0.09	64.9	66.3	+ 1.4
British Isles	29.99	29.93	— 0.06	55.1	54.4	— 0.7
Denmark	29.96	29.99	+ 0.03	53.4	54.3	+ 0.9
France	29.96	30.00	+ 0.04	62.9	65.0	+ 2.1
Germany	29.97	30.01	+ 0.04	59.8	62.3	+ 2.5
India*	29.56	29.57	+ 0.01	91.7	92.5	+ 0.8
Italy	29.94	30.02	+ 0.08	68.1	68.5	+ 0.4
Norway	29.90	29.94	+ 0.04	50.6	48.2	— 2.4
Spain	29.98	29.99	+ 0.01	67.3	64.8	— 2.5
Sweden	29.94	29.94	normal.	49.8	49.8	normal.

* Means for eight years only.
Reports from Russian stations missing.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of May, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	May mean of 9 (1877–86) years.	May, 1886.	Departure.	May mean of 9 (1877–86) years.	May, 1886.	Departure.
				°	°	°
Athens, Greece *	29.91	29.98	+ 0.07	74.5	72.5	— 2.0
Beirut, Turkey in Asia	29.89	29.92	+ 0.03	75.5	74.1	— 1.4
Bridgetown, Barbadoes	29.92	29.89	— 0.03	83.2	85.7	+ 2.5
Cape Town, Cape of Good Hope	.....	.....	.....	65.4	62.8	— 2.6
Fort Napier, Natal S. Africa	29.89	29.88	— 0.01	72.1	73.8	+ 1.7
Freetown, Sierra Leone	29.82	29.80	— 0.02	85.5	83.4	— 2.1
Funchal, Madeira Islands	30.08	30.12	+ 0.04	67.4	67.6	+ 0.2
Gibraltar	30.01	29.98	— 0.03	68.8	68.3	— 0.5
Havana, Cuba, W. I.	29.96	29.99	+ 0.03	77.6	73.8	— 3.8
Malta, Mediterranean Sea	29.92	30.01	+ 0.09	69.0	66.5	— 2.5
Melbourne, New South Wales	30.03	30.09	+ 0.06	53.3	50.8	— 2.5
Mauritius, Indian Ocean	29.98	30.08	+ 0.10	75.7	74.6	— 1.1
Mexico, Mexico	.....	30.10	.....	.....	53.8	.....
Nassau, Bahamas, W. I.	29.97	30.03	+ 0.06	78.2	80.3	+ 2.1
Paramaribo, D. Guiana, S. A.	29.96	29.93	— 0.03	79.7	79.6	— 0.1
Ponta Delgada, Azores	30.13	30.17	+ 0.04	65.1	65.8	+ 0.7
Swanbister, Orkneys	29.94	29.93	— 0.01	48.7	48.6	— 0.1
San Juan de Puerto Rico, W. I.*	29.95	29.99	+ 0.04	79.5	80.6	+ 1.1
Stykkisholm, Iceland	29.96	30.08	+ 0.12	40.3	38.3	— 2.0
Thorshavn, Färöe Islands	29.91	29.96	+ 0.05	46.2	45.0	— 1.2
Tokio, Japan	29.91	29.94	+ 0.03	60.3	60.2	— 0.1
Zi-Ka-Wei, China	29.85	29.88	+ 0.03	62.8	63.7	+ 0.9

* Means for eight years only.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Deesa, India	105.2	40.7	Fort Saint Michael's, Alaska	30.2	— 1.0
Bridgetown, Barbadoes	85.7	29.8	Fort Alexander, Alaska	34.8	1.6
Freetown, Sierra Leone	83.4	28.6	Fort Bridger, Wyoming	38.2	3.4
Manila, Philippine Islands	83.2	28.4	Stykkisholm, Iceland	38.3	3.5
San Juan de Puerto Rico	80.6	27.0	Bird Rocks, Canada	38.4	3.6
Penang, Malay Peninsula	80.4	26.9	Gjæsvær, Norway	41.2	5.1

In the United States the prevailing wind was southwest in the lower lake region, the south Atlantic, and east Gulf states; in the west Gulf states and Texas it was from the south and southeast; in the extreme northwest and the upper Mississippi valley the winds were generally from the north and northwest; in other districts they were variable. In Canada the mean wind-direction to the eastward of the Great Lakes was governed by the area of low mean pressure central in the Saint Lawrence Valley, while to the westward of the ninetieth meridian the winds were mostly southerly. Over the north Atlantic Ocean southeast to southwest winds prevailed west of the fortieth meridian, while to the eastward of the thirtieth meridian they were mostly northerly. Over the British Isles the winds were variable in Ireland; southerly over the south of England; westerly over the middle portion of England, and south to east in Scotland. Over the western portion of the continent of Europe southerly winds prevailed; elsewhere they were variable. Over British India the wind was generally governed by the area of low pressure central in the interior of that country. Over the Japanese Islands the winds were variable. Over the eastern portion of Behring Sea they were southerly.

In the United States to the westward of the eighty-fifth meridian the monthly precipitation was much below the average, while in the Ohio Valley, middle Atlantic states, and over a part of the south Atlantic states there was a marked excess. In Canada the rainfall was light in Manitoba and Ontario; in the former province and in some portions of the latter but about one-half of the average quantity having fallen; in Quebec and the Maritime Provinces the rainfall was considerably larger than the average. In the British Isles the rainfall was very large, except on the extreme southwestern, eastern, and northwestern coasts of Great Britain. It was especially large over the west and north midlands, in some of which places the fall was four times as great as the average for the month.

In the United States the most severe local storms of the month occurred on the 11th, 12th, and 13th, during the prevalence of low area number v. In Canada the heavy downpour of rain in Quebec and the Maritime Provinces, accompanying the cyclonic area moving up the Atlantic coast on the 8th and 9th, with which a magnetic storm was coincident, constituted a noteworthy feature of the month. Over the north Atlantic Ocean the weather was fairly stormy, but the barometer was not observed below 29.00 inches throughout the month. In the British Isles the month opened fine, bright, and dry; after the 8th, especially between the 11th and 13th, the rainfall was unusually heavy over England and Ireland. Over the continent of Europe an absence during the month of general storms of marked energy contributed to rather settled meteorological conditions. Over the Japanese Islands the weather conditions were generally unsettled, owing to the presence during a greater portion of the month of low barometer areas in their immediate vicinity.

TRACKS OF AREAS OF LOW PRESSURE FOR MAY, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during May, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-six areas of low pressure are shown, of which eleven are traced over the North American continent; eleven over the north Atlantic Ocean; four over Europe, and ten off the eastern coast of Asia, over the Japanese Islands, the north Pacific ocean, and Behring Sea. The average number of areas of low pressure traced over the North American continent for the month of May during the last twelve years is 8.4, or 2.6 less than the number traced for May, 1886.

Of the low areas charted, two are given a probable track from the Pacific Ocean; five passed eastward over British America, causing but slight weather changes within the limits of the United States; two storms of considerable energy apparently developed on the Atlantic coast, and one storm, also of considerable energy, after reaching the Mississippi Valley separated into several minor disturbances which disappeared before reaching the coast. The tracks of the areas of low pressure traced over North America are generally to the north of the mean storm-tracks for May, and the direction of movement on the Atlantic coast is more northerly than usual.

These storms are described in detail in the MONTHLY WEATHER REVIEW for May, 1886, under the heading "Areas of low pressure."

Of the eleven depressions traced over the north Atlantic Ocean, three were continuations of storms which first traversed the North American continent; two first appeared off the coast of the United States; one advanced from the subtropical region north of the West Indies; two developed over

mid-ocean, and three are first charted in European waters to the westward or southward of the British Isles. The positions of the storm-tracks are greatly diversified, and their general course of direction is about northeast, except in European waters where irregular movements are shown. But one storm is traced from coast to coast.

The following are brief descriptions of the depressions traced over the north Atlantic during the month:

Depression number xii appeared off the coast of the United States in about N. 36° on the 1st, whence it is traced to the English Channel by the 10th. The depression had pressure ranging from about 29.50 (749.3) to 29.80 (756.9) throughout, and, while possessing but moderate strength, was remarkable by reason of its length of path and the southern route it pursued. Accompanying its eastward movement an area of high pressure over the Azores gradually gave way to the eastward and allowed the storm to move across the ocean in the vicinity of the fortieth parallel. Depression number xiii appeared over mid-ocean on the 1st, with pressure about 29.10 (739.1), whence it moved east of north and disappeared north of Iceland after the 4th, an area of high pressure overlying the British Isles causing it to assume this abnormal course. Depression number xiv was a continuation of land depression number i which passed eastward over the Gulf of Saint Lawrence and Newfoundland during the 6th; passing eastward the depression dispersed over mid-ocean after the 9th.

Depression number xv was a continuation of land depression number ii, and passed northeast along the coast of the United States and the Canadian Maritime Provinces during the 8th, 9th, and 10th, with central pressure about 29.50 (749.3) and heavy rain; moving northward over Newfoundland during the 10th, the storm advanced along the west margin of an area of high barometer which extended southward from Iceland, and disappeared off the southwest coast of Greenland after the 12th. Depression number xvi is first charted to the northeastward of the West Indies under date of the 11th, whence it moved slowly northeast and disappeared north of the fortieth parallel after the 15th, without evidence of marked energy. Depression number xvii developed over mid-ocean and moved northeast during the 15th and 16th, with a rapid fall in barometer; by the 17th the storm-centre had passed southeast to the west coast of Ireland, where central pressure about 29.10 (739.1) was shown; from this position the storm advanced northeast over Ireland and Scotland during the 18th and 19th, and disappeared off the coast of Norway, with a gradual increase in barometric pressure. Depression number xviii appeared south of the British Isles on the 19th, and, moving northeast, disappeared over England after the 20th; this storm was of but slight strength. Depression number xix was a continuation of land depression number viii which passed southeast over Newfoundland during the 21st; during the 22d and 23d the storm circled to the south and east of Newfoundland, and afterwards dispersed on the west margin of an area of high pressure which occupied the ocean to the eastward.

Depression number xx appeared off the coast of the United States in N. 40° on the 24th and moved northeast to the western extremity of Nova Scotia by the 25th, whence it circled northwest and united with land depression number x in the Saint Lawrence Valley. The eastward passage of this storm was opposed by an area of high pressure overlying mid-ocean. Depression number xxi apparently originated over the ocean west of the British Isles and moved northeast to the west coast of Scotland by the 25th, whence it circled east and south over the North Sea and united during the 27th with a subsidiary depression which developed south of Ireland; by the 28th the centre of depression had advanced to the Orkney Islands where pressure about 29.30 (744.2) was shown, after which it disappeared to the northward. Depression number xxii appeared over the ocean south of the British Isles on the 29th, and moved east of south to the west coast of Spain by the 30th, whence it slowly circled northwest by the 31st. The storm exhibited greatest strength on the 30th, when pressure about 29.50 (749.3) was shown.

Of the four depressions traced over Europe, one moved northeast from the Mediterranean Sea; one is charted over Finland, and two advanced eastward from the ocean in the vicinity of the fiftieth parallel. A number of unimportant storms, not traced, appeared within the region from which reports have been received.

Depression number xxiii was central on the 2d over the southern extremity of Italy, with pressure about 29.60 (751.8), whence it had advanced from the southwest of Sicily; passing northeast the depression disappeared beyond the region of observation to the north of the Black Sea after the 4th. Depression xxiv was a continuation of ocean storm number i, and was central on the 10th over the English Channel, whence it passed northeast and apparently dissipated. Depression number xxv was central off the south coast of Ireland on the 12th, with pressure about 29.50 (749.3), whence it moved east over England into the North Sea by the 13th, where pressure below 29.20 (741.7) was shown; from this position the centre of depression passed north by the 14th and circled to the north and west of Scotland during the 15th and 16th, with a gradual increase in pressure. Depression number xxvi was central on the 17th over the northern extremity of the Gulf of Bothnia, with central pressure about 29.50 (749.3), after which it passed to the eastward beyond the region of observation.

Of the ten depressions traced off the eastern coast of Asia, over the Japanese Islands, and over the north Pacific Ocean and Behring Sea, six appeared in the vicinity of the Japanese Islands; one moved northeast from southward of the Aleutian Islands; one is first charted in Behring Sea, and two advanced from over the ocean to the American coast, in about N. 48°, and are continued as land depressions. The general course of direction of the depressions was northeast.

Depression number xxvii was central on the 1st over the Sea of Japan, whence it moved northeast over Yesso, and is given a probable track into Behring Sea by the 4th. Depression number xxviii passed northeast over the Aleutian Islands into Behring Sea during the 1st and 2d, with a considerable display of energy. Depression number xxix was central on the 5th over Kiu-siu, with pressure about 29.70 (754.4), whence it moved to the south coast of Hondo by the 6th, where pressure ranging to about 29.50 (749.3) was shown; by the 7th the storm-centre had advanced to the south of Yesso, with an appreciable increase in pressure, after which it disappeared beyond the northern limit of reports. Depression number xxx advanced eastnortheast to the American coast in about N. 48° by the 8th, after which it is given a probable track to the one hundred and tenth meridian, where it is continued as land area number iv. During the three dates for which the depression was traced over the ocean, barometric pressure about 29.70 (754.4) was shown. Depression number xxxi is traced from Behring Sea to the vicinity of Sitka during the 11th, 12th, 13th, and 14th, during which period the barometric pressure increased from below 29.40 (746.7) to about 29.80 (756.9). Depression number xxxii advanced from the southwest into the Sea of Japan by the 13th, and moved to the north coast of Yesso by the 14th, with central pressure about 29.50 (749.3) on the latter date, after which it disappeared to the northward.

Depression number xxxiii appeared on the 17th northeast of Formosa with pressure ranging below 29.80 (756.9); by the 18th the storm-centre had moved northeast to Kiu-siu, with slight changes in barometric pressure, after which it passed northeast over western Hondo and the Sea of Japan to the southeast coast of Yesso by the 20th, and thence disappeared beyond the region of observation. Depression number xxxiv passed northeast over Kiu-siu, western Hondo, and the Sea of Japan during the 23d and 24th, with pressure about 29.50 (749.3) on the latter date, after which it disappeared to the north of Yesso. Depression number xxxv appeared over the ocean in about N. 40°, W. 136° on the 25th, with pressure below 29.70 (754.4), whence it moved northeast to the American coast in

N. 49° by the 26th, and is thence given a probable track which connects it with land area number xi. Depression number xxxvi is located south of the Japanese Islands under date of the 31st, whence it had advanced from the southwestward. The depression exhibited marked energy, and central pressure about 29.50 (749.3) was shown.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◕ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

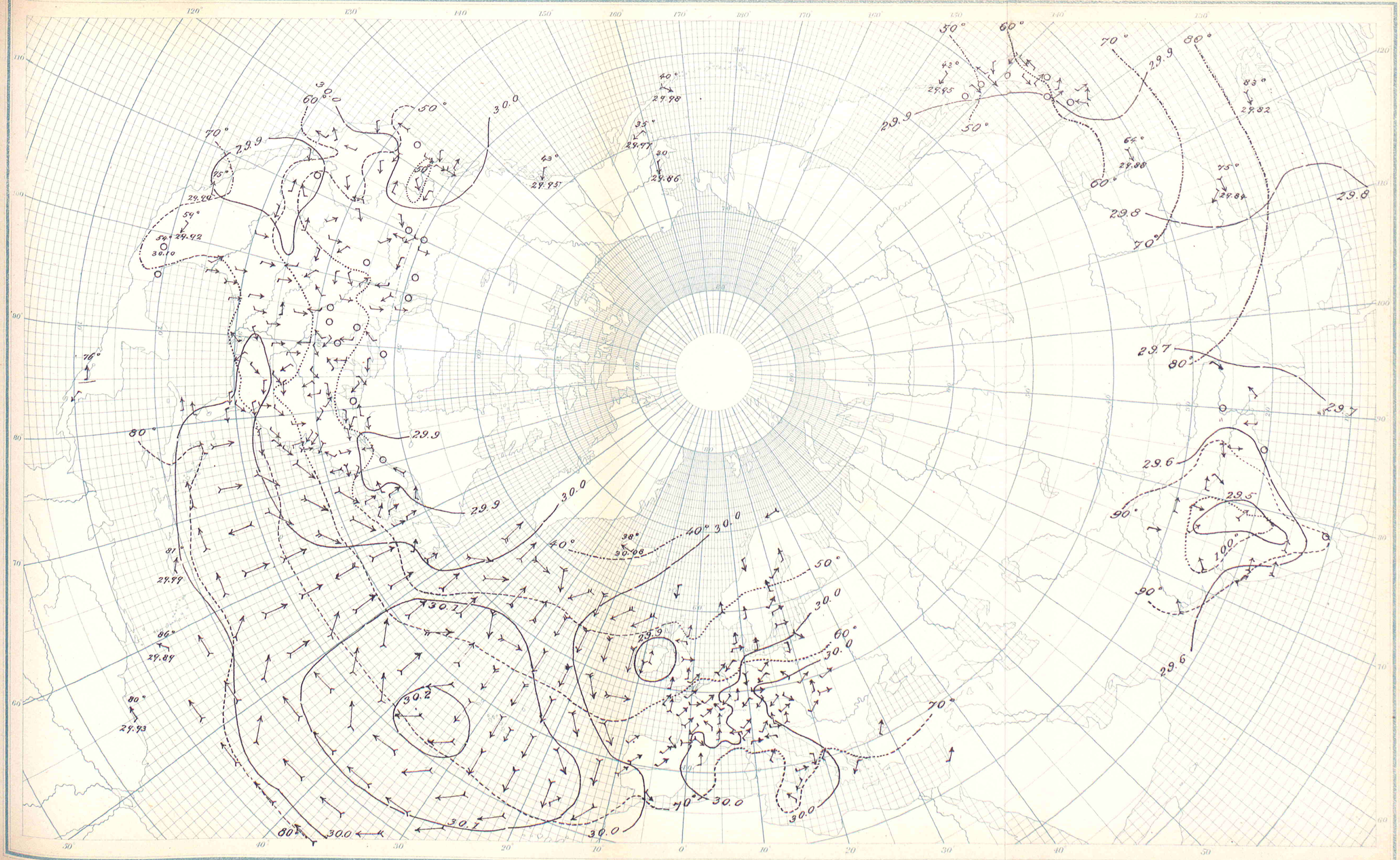
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

Published by order of the Secretary of War.

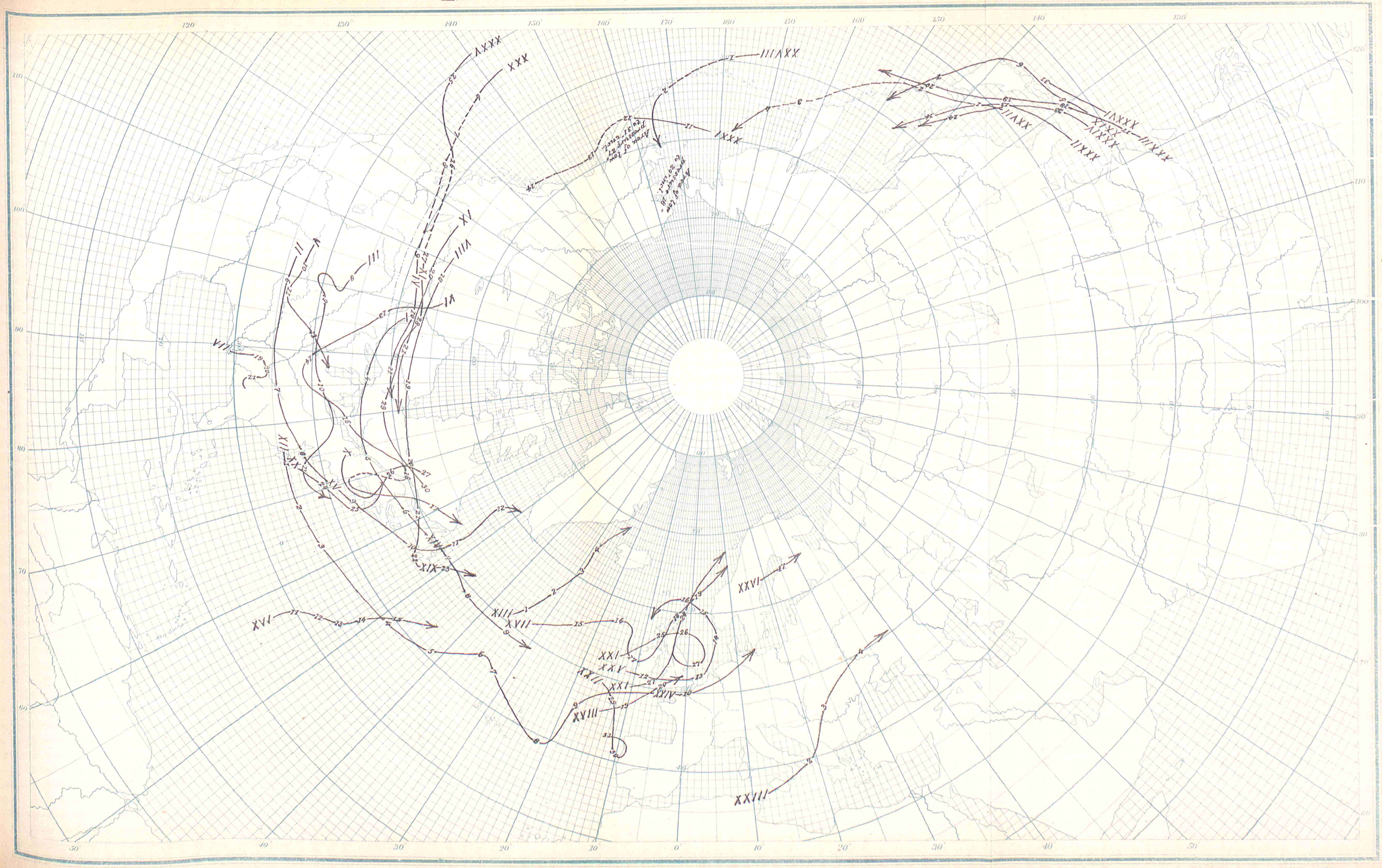
A. W. GREELY,
Chief Signal Officer.

International Chart II. May, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. May, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May, 1886—Continued.

	Name of vessel.	Captain.
	WILSON LINE.	
Br.	s. s. Bassano	Capt. W. Rea.
	Buffalo	J. H. Malet.
	Chicago	J. W. Jones.
	Galileo	Richard Potter.
	Lepanto	Wm. Abbott.
	Otranto	Wm. Rippeth.
	Salerno	B. H. Rogers.
	Sorrento	J. T. Rogers, RNR.
	WATTS, WARD LINE.	
Br.	s. s. Richmond	J. Garsen
	Camden	S. R. Chandler.
	MISCELLANEOUS.	
Br.	s. s. Aboraca	John Temple.
	Athens	Ch. Off. Eml. Towns.
Nor.	Bedford	Capt. T. Aikenhead.
Ger.	Bratsburg	H. Neilsen.
Br.	Brutus	J. A. Voege.
	Chigwell	W. Masters.
	Chiswick	E. Leighton.
	Craighill	W. H. Bennett.
	Cranbrook	John W. Harvey.
	Edith Godden	John H. Bennett.
	El Callao	Jos. Scholtz.
Span.	Elstow	T. Robertson.
Br.	Emiliano	D. F. de Bengoa.
	Gedmandale	B. W. Hick.
Span.	Glenfalloch	R. Webster.
Br.	Hugo	A. de Mugica.
Am.	Lord Lansdowne	C. H. Baskfill.
Br.	Lorenzo D. Baker	W. F. Wiley.
	Madrid	M. Garson.
	Matthew Bedlington	Thos. Kirby.
	Peconic	John Jenkins.
	Piqua	J. H. Prouse.
Ger.	Prydain	Moses Perry.
Br.	Raiatea	J. Viereck.
	Rydal Water	H. Callahan, Mate.
	Sacrobosco	R. S. Thompson.
	Stag	James Adams.
	Sulina	Thos. Potter.
	Sussex	J. P. O'Callaghan.
	Vindolana	Thos. Harrison.
	Vertumnus	C. E. Cook.
	Viola	L. Murray.
	N. Y. HERALD WEATHER SERVICE.	
Br.	s. s. Abyssinia	Jas. Price.
Am.	Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell
	Alaska	G. S. Murray.
	Alpin	J. G. Perry.
	Aurania	W. H. P. Hains
	Alvo	D. Williams.
	Arizona	Sam. Brooks.
Belg.	Baltic	G. Burton.
Br.	Belgenland	W. A. Beynon.
Am.	Britanic	H. Perry.
Am.	Chalmette	Robert B. Quick.
Br.	City of Alexandria	J. W. Reynolds.
	City of Berlin	F. S. Land.
	City of Chester	H. Condron.
	City of Chicago	Fred. Watkins.
Am.	City of Montreal	A. Redford.
Br.	City of Puebla	John Deakin.
	City of Richmond	Authur Lewis.
Am.	Celtic	Benj. Gleadell.
Br.	Colon	Chas. Lima.
Ger.	Craighill	W. H. Bennett.
Br.	Donau	C. Phole.
Ger.	Etruria	T. Cook.
Ger.	Ems	W. Willigerod.
Belg.	Lessing	B. Voss.
Br.	Nederland	A. J. Griffin.
Am.	Nevada	J. Douglass.
Belg	Newport	W. G. Shackford.
Br.	Noordland	N. E. Nickils.
Dtch.	Olympia	James Brown.
Belg.	P. Caland	F. H. Bonjer.
	Pennland	R. Weyer.

	Name of vessel.	Captain.
	HERALD WEATHER SERVICE—Con.	
Br.	Republic	Capt. P. J. Irving.
Br.	Richmond Hill	A. Hyde.
Belg.	Rhynland	J. C. Jamison.
Dtch.	Schiedam	G. Bakker.
Br.	Servia	A. McKay.
Fr.	St. Laurent	M. de Jousselin.
Br.	The Queen	J. Milligan.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Waesland	J. Ueberweg.
Br.	Wisconsin	E. Bentley.
Belg.	Westernland	Com. W. G. Randle.
	SAILING VESSELS.	
Br.	bk. Abyssinian	Capt. John Hughes.
Am.	bg. Abbie Clifford	D. W. Storer.
Br.	bg. Achsah	A. M. Shaw.
Nor.	sp. Ariel	Fr. Schwings.
Br.	bk. Ada Peard	N. Hocken.
It.	Agostino Bombo	V. Basso.
Am.	schr. Annie R. Lewis	L. L. Lewis.
	bg. Arcot	J. W. Cates.
Nor.	bk. Artemis	E. E. Moe.
Ger.	Athena	A. Witte.
Ger.	bk. Betty	S. Wohlmuth.
Br.	sp. British Isles	G. Southcott.
Br.	bk. British Princess	F. W. Peterson.
Ger.	sp. Caroline	Fr. Schluter.
Br.	sp. Chas. S. Whitney	Geo. D. Spicer.
Br.	bk. Childwall	T. O. Watson.
Br.	sp. City Camp	D. McLeod.
Ger.	bkt. Columbus	B. Sauermilch.
Br.	sp. Earl of Shaftsbury	W. Randall.
	E. J. Spicer	Dewis Spicer.
Am.	schr. Emily Shepard	E. Coggins.
	Edward R. Emerson	A. H. Child.
Am.	bg. Ernestine	E. R. Norton.
	bk. Essex	G. W. Hall.
Br.	schr. Etta A. Watt	G. T. Lecompte.
Am.	schr. Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	G. J. Pearce.
Am.	schr. Florence Rogers	J. S. F. McLeod.
	bk. Fluorine	Wm. Manson.
Ger.	sp. Georg	G. A. Scholtz.
Am.	bk. Harriet S. Jackson	W. T. Bacon.
Br.	bk. Harvester	W. Cassidy.
Am.	Havana	B. F. Rice.
Ger.	sp. Hedwig	Th. Minssen.
Dtch.	bk. Helena	T. T. Verbeet.
Am.	Harvard	Samuel Pray.
	sp. Henry Villard	F. B. Perkins.
Am.	schr. Henry Waddington	W. H. Magee.
Ger.	bk. Ida	C. Fessenfeldt.
Br.	bk. Iodine	Adam Smith.
Am.	schr. John J. Hanson	L. J. Stevens.
Ger.	sp. J. W. Gildemeister	A. Lehman.
	Joseph Souther	J. W. Watts.
Br.	bk. Kryolith	W. C. Stephen.
	Lalla	Paul Le Blanc.
Am.	bg. L. & W. Armstrong	A. Alexander.
Nor.	bk. Lovspring	G. Thomsen.
Ger.	bk. Leocadia	John Stohff.
Br.	bg. Lillian	H. F. Schive.
Br.	bkt. Lydia	Geo. Lowery.
	sp. Mabel Taylor	C. E. Durkee.
Am.	sp. Mary L. Stone	G. L. Josselyn.
	Magellan	E. S. Manson.
Am.	schr. Maggie Abbott	D. C. McIntosh.
Am.	bg. Mary Fink	D. B. Darrah.
	sp. Mary L. Cushing	C. Downs.
Br.	sp. Morna	J. H. Goodwin.
Am.	schr. Nellie Coleman	Geo. Hodgkins.
Am.	bkt. Nellie M. Slade	J. A. Gould.
Am.	schr. Nelson Bartlett	S. Watts.
Ger.	sp. Palme	W. Bahls.
Am.	bk. Ralph M. Hayward	J. Baxter.
Br.	bk. Recovery	T. E Blagdon.
Dan.	bk Rialto	N. P. Hansen.
Ger.	bk. Richard	A. von Seggern.
Br.	bkt. Rosebud	John Collie.
Br.	bk. Sarah Doe	B. S. Merryman.
Am.	schr. Sarah D. J. Rawson	Thos. D. French.
Am.	bk. Sarah	L. R. Hale.
Br.	sp. Sapphire	G. W. Murray.
Ger.	sp. Shakspere	Carl Muller.

	Name of vessel.	Captain.
	SAILING VESSELS—Continued.	
Br.	Stephen D. Horton	Capt. J. Spicer.
Am.	sp. St. John	O. H. Fales.
Am.	bk. Samuel E. Spring	B.W. Proctor, Mate
Am.	bg. Teneriffe	N. S. Tracy
Nor.	bk. Tros	S. Brager.
Br.	bk. Tuck Sing	Geo. N. Ryder.
Am.	Tille Baker	J. H. Carty.
Aust.	sp. The Lord Warden	J. N. Ossoinack.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	bk. Western Chief	Fr. Sander.
Am.	Xenia	N. E. Reynolds.
	UNITED STATES NAVAL.	
U. S. S.	Adams	Louis Kempff.
U. S. S.	Alert	C. J. Barclay.
U. S. S.	Alliance	C. McGregor.
U. S. S.	Brooklyn	E. O. Matthews.
U. S. S.	Galena	C. W. Chester.
U. S. S.	Hartford	Charles M. Thomas.
U. S. S.	Iroquois	Yates Stirling.
U. S. S.	Jamestown	Horace Elmer.
U. S. S.	Kearsarge	C. D. Sigsbee.
U. S. S.	Lancaster	E. E. Potter.
U. S. S.	Marion	Merrill Miller.
U. S. S.	Monocacy	H. Glass.
U. S. S.	Monongahela	Geo. B. Livingston.
U. S. S.	Mohican	B. F. Day.
U. S. S.	Omaha	T. O. Selfridge.
U. S. S.	Ossipee	J. F. McGlensey.
U. S. S.	Palos	T. Nelson.
U. S. S.	Pensacola	Geo. Dewey.
U. S. S.	Pinta	
U. S. S.	Portsmouth	C. V. Gridley.
U. S. S.	Powhatan	L. A. Beardsly.
U. S. S.	Quinnebaug	Geo. Coffin.
U. S. S.	Ranger	C. E. Clark.
U. S. S.	Saratoga	W. H. Whiting.
U. S. S.	Shenandoah	B. Wilson.
U. S. S.	Swatara	E. T. Windham.
U. S. S.	Tallapoosa	Wm. Whitehead.
U. S. S.	Tennessee	Robert Boyd.
U. S. S.	Trenton	R. L. Phythian.
U. S. S.	Vandalia	H. L. Howison.
U. S. S.	Yantic	F. M. Green.
	BRITISH NAVAL.	
H. M. S.	Audacious	R. H. Harris.
H. M. S.	Briton	R. M. Lloyd.
H. M. S.	Bacchante	A. U. Moore.
H. M. S.	Bellerphon	Fitz-Gerald.
H. M. S.	Cleopatra	L. C. Keppel.
H. M. S.	Champion	A. T. Powlett.
H. M. S	Condor	H. J. May.
H. M.	Dockyard, Bermuda	J. F. G Grant.
H. M. S	Diamond	F. S. Clayton.
H. M. S.	Flying Fish	J. P. Maclear.
H. M. S.	Himalaya	J. E. Stokes.
H. M. S.	Heroine	F. R. Blackburn.
H. M. S.	Myrmidon	R. F. Hoskin.
H. M. S.	Midge	H. J. Robilliard.
H. M. S.	Mariner	J. Durnford.
H. M. S.	Miranda	E. Rooke.
H. M. S.	Nelson	A. P. Lake.
H. M. S.	Osprey	C. E. Gissing.
H. M. S.	Phaeton	R. H. Boyle.
H. M. S.	Raleigh	A. K. Wilson, V. C.
H. M. S.	Rambler	W. U. Moore.
H. M. S.	Rifleman	C. W. Prater.
H. M. S.	Superb	H. F. Cleveland.
H. M. S.	Sylvia	L. S. Dawson.
H. M. S.	Satellite	A. H. Allington.
H. M. S.	Torquoise	R. Woodward.
H. M. S.	Temeraire	C. E. Domville.
H. M. S.	Thunderer	H. F Stephenson.
	PORTUGUESE NAVAL.	
H. P. M. S.	Tamega	J. d'A. d'Avila.
H. P. M. S.	Africa	C. M. du Silvia-Costa.
	SWEDISH NAVAL.	
H. S. M. S.	Saga	A. Meister.
H. S. M. S.	Robertsford	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of May. 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	[Todd, C. M. G.
Hobart Town, Tasmania	L. C. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry & J. Rooney.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
Penang	F. K. Hampshire, M. B.
Singapore	T. Irvine Rowell, M. D.
Malacca	W. R. Angus.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	R. Gardner Warton.
CHINESE.	
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
DANISH—*Continued.*	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overloerer Bergh.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	M. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brience	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours, Observatory	M. Flignard.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman:
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
ITALIAN—*Continued.*	
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	F. Weidner.
Mexico	The Staff.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	S. E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Behring Island, Behring Sea	George Cherwick.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JUNE, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
AUGUST, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Norwegian	R. Carruthers.
Prussian	Alex. McDougal.
Scandinavian	John Park.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British Crown	Geo. Burton.
British King	John Kelly.
British Prince	Samuel Nowell.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Acadia	John McKeague.
Australia	Alex. McRichie.
Circassia	A. Campbell.
Columbia	R. T. Garvie
Devonia	Hugh Young.
Furnessia	J. Hedderwick.
Italia	T. Craig.
Olympia	Jas. Brown.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Crystal	R. B. Stannard.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Albano	H. R. Hughes.
Span. Alps	T. Anasagasti.
Br. Alvo	David Williams.
Alvena	O. Hughes.
Span. Andes	T. MacKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	C. Journiel.
Chateau Yquem	J. le Chapelain.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gaeger.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Australia	G. Franck.
California	O. Winkler.
Polynesia	A. Kuhn.
FABRÉ LINE.	
Fr. s. s. Alésia	Dr. C. Ollive, Obs.
FURNESS LINE.	
Br. s. s. Boston City	W. T. Sherbourne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S.S.Co.	
Fr. s. s. Amérique	E. Santelli.
St. Germain	—— Boyer.
Labrador	P. dé Hauterive.
Normandiè	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
GUION LINE.	
Br. s. s. Arizona	Capt. S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Reessing.
Bohemia	R. Karlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	B. Voss.
HAMBURG-AMERICAN LINE—Con'd.	
Moravia	Capt. O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	E. Kopff.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
JOHNSON LINE.	
Br. s. s. Claymore	—— Gulland.
Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Bessel	Chas. J. Watson.
Dalton	J. Russell.
Belg. Hipparchus	W. Kelly.
Keppler	J. Dixon.
Br. Mozart	T. Sawyer.
Olbers	Jas Clark.
Teniers	J. McAuley.
Thales	J. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Lampasas	M. B. Crowell.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	William Bowen.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Egyptian Monarch	W. S. Morgan.
Grecian Monarch	B. J. W. Bristow.
Persian Monarch	F. Paton.
MORGAN'S LA. & TEXAS R. R. & S. S. COMPANY.	
Am. s. s. Lone Star	Geo. W. Mason.
NATIONAL LINE.	
Br. s. s. Denmark	Geo. Cochrane.
Egypt	R. W. Grace.
England	T. P. Heeley.
Greece	A. J. Jeffrey.
Helvetia	John Milligan.
Holland	Wm. Tyson.
The Queen	J. Sumner.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	G. Meyer.
Donau	C. Pohle.
Eider	H. Helmers.
Elbe	H. Richter.
Ems	W. Willigerod
Fulda	R. Ringk.
Habsburg	F. Pfeiffer.
Hermann	H. Baur.
Hohenstaufen	H. Winter.
Leipzig	C. Thalenhorst.
Main	H. Christoffers.
Rhein	C. Wiegand.
Werra	Richard Bussius.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R.N.R.
Oceanic	J. Thomson.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. City of Augusta	Capt K. S. Nickerson.
Chattahoochee	J. W. Catherine.
Juniata	S. L. Askins.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Alameda	H. G. Morse.
Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. Acapulco	W. G. Shackford.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	G. G. Berry.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	Thos. Chapman.
PYMAN WATSON STEAMSHIP Co.	
Br. s. s. Netley Abbey	H. N. Vyvyan.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	Jas. S. Garvin.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	Allen J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Zeeland	Capt. L. De Smet.
ROTTERDAM LINE.	
Dtch s. s. Edam	J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
Zaandam	A. Potjer.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Nebraska	A. G. Braes.
State of Nevada	John A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Hermann	D. Meyer.
Jan Breydell	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	Capt. H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Germanic	C. W. Kennedy.
Republic	P. J. Irving.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JUNE, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
AUGUST, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, JUNE, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.															
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																										
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	30.22	767.6	30.34	770.6	49.6	9.8	78	2	1	2	3	7	3	1	8	3	5346	8603	4	0.42	10.7
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	30.01	762.2	30.20	767.1	44.7	7.1	92	10	6	4	2	2	.....	1	.....	5	.....	.....	6	0.28	7.1
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.21	767.3	30.29	769.4	49.3	9.6	87	8	.....	4	5	7	.....	1	4	1	.....	.....	6	0.51	13.0
Austrian.																												
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.30	744.2	29.83	757.6	70.2	21.2	61	2	4	2	9	3	6	1	3	.....	.....	.....	7	6.59	167.4
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.08	738.6	29.84	757.8	66.9	19 4	68	5	1	10	4	1	1	3	5	.....	.....	.....	8	4.76	120.9
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	28 93	734.8	29.78	756.3	63.9	17.7	73	9	.....	.....	.....	8	.....	.....	.....	13	.....	.....	7	3.75	95.3
Kremesmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.54	725 0	29.86	758.5	63.3	17.4	77	.....	1	13	5	.....	.....	4	4	3	.....	.....	8	9.27	235.5
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.82	732.0	29.78	756.5	67.8	19.9	73	3	4	3	7	1	5	1	6	.....	.....	.....	7	2.54	64.4
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.74	755.3	29.85	758.1	73.9	23.3	71	2	2	8	6	4	2	3	1	2	.....	.....	3	7.77	197.3
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.34	745.2	29.79	756 7	73.8	23.2	53	8	4	9	2	3	1	.....	3	.....	.....	.....	6	3.58	90.9
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.50	749.3	29.77	756.2	73.2	22.9	63	5	4	5	9	2	2	.....	2	1	.....	.....	7	2.46	62.4
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.77	756.1	29.87	758.6	73.9	23.3	63	.....	2	9	11	.....	3	1	3	1	.....	.....	7	10.79	274.1
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.15	740.4	29.86	758.5	65.1	18.4	68	8	4	11	1	1	1	1	1	2	.....	.....	6	8.84	224.4
Brazilian.																												
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.95	760.6	30.13	765.2	66.6	19.2	79	1	17	2	2	.....	1	.....	5	2	.....	.....	6	1.68	42.8
British.																												
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.82	757.4	29.95	760.7	54.7	12.6	64	.....	6	5	1	6	7	3	2	.....	9599	15448	6	1.04	26.4
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.01	762.2	58.0	14.4	69	.....	4	15	2	2	3	4	.....	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.56	750.8	29.98	761.5	58.8	14.9	66	3	7	5	3	1	6	.....	5	.....	.....	.....	8	0.97	24.6
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.93	760.2	29.89	759.2	85.9	29.9	67	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.82	757.4	30.02	762 5	62.4	16.9	64	3	2	1	2	3	5	3	.....	11	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.89	759.2	30.10	764.5	60.2	15.7	73	1	8	5	4	.....	7	5	.....	.....	.....	.....	6	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.73	704.3	30.03	762.7	71.5	21.9	32	1	1	1	.....	1	3	1	22	.....	.....	.....	1	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.62	752.3	29.79	756.7	81.2	27.3	95	8	1	4	1	7	2	7	.....	.....	.....	.....	2	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.95	760.7	29.99	761 7	60.1	15.6	79	2	2	8	10	3	1	2	2	.....	.....	.....	5	1.38	35.1
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.97	761.2	30.11	764.8	73.2	22.9	79	.....	7	10	3	.....	.....	7	3	.....	.....	.....	2	.....	.....
Greenwich	N. 51 29	0 0c	12 m.	159	48	29.81	757.2	30.00	762.0	64.6	18.1	70	3	5	4	6	1	.....	3	7	1	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.74	755.4	30.04	763.0	60.0	15.6	76	2	11	9	1	1	1	.....	5	.....	.....	.....	7	.....	.....
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.96	761.0	30.02	762.5	61.8	16.6	59	8	6	5	3	2	2	3	1	.....	.....	.....	3	0.92	23.4
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.72	754.9	30.00	762.0	60.6	15.9	64	2	5	5	7	.....	1	.....	5	1	.....	.....	6	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.86	758.4	29.92	760.0	74.7	23.7	69	1	18	.....	.....	1	.....	2	8	.....	.....	.....	8	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.98	761.5	29.98	761.5	84.1	28.9	74	.....	.....	.....	.....	1	2	19	4	2	2	.....	1	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.74	755.4	29.99	761.7	61.7	16.5	62	3	5	2	8	2	1	.....	7	2	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.95	760 7	30.03	762.7	64.2	17.9	69	4	6	1	6	5	1	2	2	3	.....	.....	6	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.73	755.1	29.85	758.2	52.1	11.2	80	1	5	7	8	.....	6	2	.....	1	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.73	755.1	29.78	756.4	80.2	26.8	51	3	1	.....	13	4	.....	.....	7	2	.....	.....	3	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.01	762.2	58.7	14.8	70	1	1	11	4	3	.....	2	8	.....	.....	.....	8	2.96	75.2
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	.....	.....	30.08	764.0	59.7	15.4	78	4	5	5	8	2	3	2	1	.....	.....	.....	7	.....	.....
Sub-series.																												
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.70	754.4	29.95	760.7	74.9	23.8	55	1	17	4	2	1	4	.....	1	.....	5451	8772	4	0.12	3.0
Singapore	N. 1 17	E. 103 51	6.55 p.m.	10	3	29.86	758.4	29.79	756.7	79.6	26.4	89	.....	.....	.....	4	.....	10	1	.....	15	.....	.....	5	8.51	216.2
Canadian.																												
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.86	758.4	29.91	759.7	59.6	15.3	.....	.....	.....	5	.....	7	3	4	1	10	.....	.....	5	2.18	55.5
Bird Rocks	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.77	756.1	29.90	759.4	49.8	9.9	92	2	4	4	11	2	1	2	4	.....	.....	.....	5	1.32	33.5
Charlottetown d	N. 46 14	W. 63 10	7.47 a.m.	38	12	29.90	759.4	29.95	760.7	57.8	14.3	78	3	1	3	6	6	1	.....	2	4	.....	.....	6	1.06	26.9
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.85	758.2	29.91	759.7	55.9	13.3	82	1	2	8	7	6	.....	2	4	.....	3540	5697	6	2.04	51.8
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.70	754 4	29.90	759.5	61.7	16.5	80	2	1	19	.....	.....	.....	7	1	.....	.....	.....	5	4.69	119.3
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.82	757.4	29.87	758.7	56.9	13.8	.....	1d	1	19	.....	.....	.....	3	.....	2	.....	.....	4	2.67	67.9
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.85	758.2	29.87	758.7	51.8	11.0	84	5	1	10	5	1	.....	.....	6	2	10282	16547	5	3.04	77.2
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.13	739.9	29.95	760.7	51 9	11.1	85	5	5	2	3	5	5	2	2	.....	6861	11041	4	1.20	30.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.78	757 4	29.97	761.2	60.2	15.7	68	2	6	4	2	6	2	3	5	.....	4791	7710	5	1.87	47.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.91	759.7	29.96	761.0	57.7	14.3	72	1	7	1	6	3	2	.....	1	9	7644	12302	3	1.04	26.4
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.87	733.3	29.97	761.2	56.1	13.4	95	1	3	.....	2	2	.....	1	.....	21	1619	2606	5	1.98	50.4
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.84	757.9	29.97	761.2	57.6	14.2	83	2	5	9	2	4	3	1	2	2	.....	.....	4	2.71	68.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.59	751.6	29.99	761.7	62.1	16.7	73	2	.....	10	7	2	.....	2	7	.....	.....	.....	5	0.97	24.6
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.62	752.3	29.95	760.7	58.9	14.9	85	2	1	6	7	6	.....	2	5	1	3046	4902	6	2.68	68.1
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.85	758.2	29.89	759.2	58.9	14.9	75	3a	3	3	12	2	1	1	3	1	.....	.....	7	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.09	738 9	29.98	761.5	57.8	14.3	87	1	1	.....	.....	1	.....	.....	.....	27	1102	1773	5	2.39	60.7
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.62	701 5	29.89	759.2	58.7	14.8	73	.....	1	4	7	.....	.....	1	.....	17	5670	9125	4	1.53	39.9
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.11	714 0	29.93	760.2	51.3	10.7	84	.....	4	2	2	1	3	8	5	5	6870	11056	3	1.07	27.2
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.73	755.1	29.93	760.2	60.3	15.7	76	2	2	5	8	8	1	3	1	.....	.....	.....	6	2.99	75.9
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.69	754.1	29.93	760.2	58.0	14.4	86	2	6	7	3	3	1	7	1	.....	3196	5143	6	3.11	78.9
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.26	743.2	29.94	760.5	56.9	13.8	83	4	.....	2	3	5	5	8	3	.....	5505	8859	5	2.64	67.1
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.26	743 2	29.95	760.7	61.4	16.1	78	.....	7	.....	1	3	1	1	6	11	.....	.....	6	2.83	71.8
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.23	742.4	29.94	760.5	52.4	11.3	83	2	4	2	2	.....	.....	.....	4	16	3021	4862	4	1.91	48.5
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.31	744.5	29.96	761.0	58.5	14.7	95	4	3	1	4	1	.....	.....	2	15	2644	4255	5	3.16	80.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.32	744.7	29.95	760.7	57.5	14.2	90	4	3	7	.....	.....	1	8	3	4	.....	.....	4	3.01	76.5
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.66	702.6	29.93	760.2	54.4	12.4	82	1	5	.....	5	7	5	2	2	3	6879	11070	3	0.29	7.4
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.60	751.8	29.92	760.0	57.2	14.0	81	.....	3	3	6	.....	.....	4	4	10	.....	.....	5	2.30	58.4
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.48	748.8	29.94	760.5	52.7	11.5	91	.....	7	3	.....	.....	.....	.....	.....	11	.....	.....	5	3.36	85.3
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.89	759.2	29.94	760.5	54.4	12.4	84	2	2	4	2	3	4	1	5	7	.....	.....	2	1.50	38.1
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.81	757.1	29.94	760.5	55.7	13.2	82	6	3	.....	.....	16	.....	1	1	3	.....	.....	6	1.29	32.8
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.89	759.2	52.9	11.6	.....	.....	4	2	11	.....	3	1	2	7	.....	.....	.....	16.26	41.
Sangeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.26	743.2	29.97	761.2	54.5	12.5	86	.....	1	1	2	10	.....	2	.....	14	3035	4884	4	3.89	98.8
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	.....	.....	29.81	757.2	29.85	758.2	52.4	11.3	84	4	2	2	.....	4	4	5	1	8	2698	4342	5	2.27	57.7
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.71	729.2	29.97	761.2	57.5	14.2	86	1	4	2	9	2	3	1	.....	8	.....	.....	3	0.85	21.6
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.37	695.2	29.91	759.7	59.0	15.0	.....	.....	2	4	7	4	3	5	.....	4	.....	.....	6	3.27	83.1
Sydney	N. 46 08	W. 60 10	7.59 a.m.	37	11	29.86	758.4	29.93	760.2	56.8	13.8	78	5	4	1	4	11	4	.....	1	.....	6939	11167	6	1.92	48.8
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.59	751.6	29.97	761.2	58.0	14.4	78	5	6	4	1	.....	5	2	2	5	.....	.....	5	2.82	71.7
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.93	734.8	29.97	761.2	60.0	15.6	83	2	4	3	5	1	3	2	2	8	.....	.....	5	1.59	40.4
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.90	759.4	29.98	761.5	55.3	12.9	85	7	3	1	4	4	7	2	2	.....	.....	.....	3	3.51	89.2
Sub-series.																												
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.68	753.9	29.86	758.4	53.7	12.1	83	.....	1	5	6	4	10	.....	4	.....	.....	.....	6	0.67	17.0
Cape Colony																												
Cape St. Francis	S. 34 10	E. 24 50	1.39 p.m.	25	8	30.09	764.3	30.09	764.3	66.6	19.2	84	.....	3	12	2	.....	.....	1	1	11	.....	.....	2	4.34	110.2
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	30.05	763.3	.....	.....	61.7	16.5	67	2	6	3	2	2	3	.....	.....	12	.....	.....	4	11.19	284.2
Chinese.																												
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	29.73	755.1	29.71	754.6	75.0	23.9	88	.....	.....	1	7	2	6	2	8	4	.....	.....	7	10.62	269.7
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.67	753.6	29.73	755.1	79.2	26.2	85	4	1	.....	1	7	4	12	1	.....	.....	.....	7	11.82	300.5
Sub-series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.76	755.9	29.74	755.4	69.3	20.7	90	4	.....	.....	3	4	11	5	3	.....	.....	.....	8	15.93	404.6
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.70	754.4	29.76	755.9	65.2	18.4	92	.....	3	2	1	3	1	3	11	1	.....	.....	7		

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.								Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
DANISH.	o ′	o ′																								
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.82	757.3	29.89	759.3	61.3	16.3	67	7	4	4	1	6	2	6	.....	.....	.....	.....	5	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.85	758.3	29.91	759.6	59.9	15.5	72	.....	6	13	5	.....	3	3	.....	.....	.....	.....	6	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.65	753.1	29.74	755.5	45.9	7.7	75	1	1	1	4	5	4	10	4	.....	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.74	755.5	29.81	757.1	50.7	10.4	85	2	3	10	6	1	1	3	.....	4	.....	.....	7	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.76	755.9	29.89	759.1	57.9	14.4	69	.....	7	9	7	1	.....	4	2	.....	.....	.....	4	.....	.....
FRENCH.																										
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.41	747.1	30.05	763.2	66.4	19.1	72	.....	2	7	1	.....	1	1	1	17	.....	.....	6	2.41	61.2
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.56	750.8	30.12	765.1	64.2	17.9	66	5	3	2	6	4	.....	.....	10	.....	.....	.....	6	2.65	67.3
Arras	N 50 18	E. 2 46	0.11 p.m.	223	68	29.73	755.2	29.98	761.5	64.0	17.8	66	1	.....	.....	1	4	8	3	5	8	.....	.....	6	3.96	100.6
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.86	758.4	29.94	760.4	75.9	24.4	50	15	4	2	2	3	1	.....	3	.....	.....	.....	5	0.44	11.3
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.41	747.0	29.97	761.2	64.2	17.9	69	1	5	3	4	5	4	1	7	.....	.....	.....	8	2.30	109.2
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.66	753.3	30.03	762.8	65.1	18.4	75	4	10	4	.....	3	1	.....	3	5	.....	.....	7	2.47	62.7
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.09	738.9	29.96	760.9	64.6	18.1	67	.....	2	.....	10	8	2	.....	8	.....	.....	.....	7	3.15	80.0
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.77	756.2	30.03	762.8	66.7	19.3	66	4	7	6	7	2	2	.....	2	.....	.....	.....	7	3.82	97.1
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.41	747.1	29.96	760.9	65.3	18.5	66	3	10	9	4	1	.....	.....	3	.....	.....	.....	6	2.18	55.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.78	756.5	30.04	763.0	65.3	18.5	69	7	2	5	4	2	.....	1	7	2	.....	.....	6	0.45	11.5
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.90	759 5	.....	.....	63.7	17.6	77	2	8	8	7	2	2	.....	1	.....	.....	.....	5	0	0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.65	753.0	23.97	761.2	64.4	18.0	89	7	3	7	1	2	.....	9	.....	1	.....	.....	7	5.46	138.6
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.53	747.6	29.95	760.7	64.2	17.9	67	10	2	8	3	1	1	1	4	.....	.....	.....	.....	4.05	102.9
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	29.65	757.6	29.97	761.2	66.0	18.9	59	5	10	4	1	4	.....	1	5	.....	.....	.....	7	3.63	92.2
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.15	740.4	29.98	761.4	67.1	19.5	64	1	11	5	5	2	1	.....	3	2	.....	.....	.....	3.96	100.5
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.12	739.7	30.00	762.0	62.1	16.7	85	3	2	11	10	1	.....	.....	3	.....	.....	.....	8	3.92	99.5
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.49	698.2	29.90	759.4	69.6	20.9	68	.....	.....	.....	3	2	.....	.....	11	14	.....	.....	.....	1.91	48.6
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.81	731.8	29.89	759.1	73.0	22.8	40	1	.....	16	6	6	1	.....	.....	.....	.....	.....	3	0.54	13.6
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.28	743.6	30.03	762.8	67.5	19.7	66	3	25	.....	1	.....	1	.....	.....	.....	.....	.....	.....	3.52	89.5
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.45	722.5	30.00	762.1	61.5	16.4	81	3	3	6	5	1	1	6	1	4	.....	.....	.....	4.23	107.5
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.51	749.5	30.06	763.6	69.4	20.8	63	.....	3	11	10	.....	4	2	.....	.....	.....	.....	.....	1.50	38.2
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.98	761.4	30.09	764.3	67.5	19.7	64	5	3	3	7	4	1	.....	7	.....	.....	.....	7	0.82	20.8
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.94	735.0	29.97	761.2	66.7	19.3	57	9	8	2	.....	4	2	3	2.	.....	.....	.....	8	3.17	80.5
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.71	754.5	30.01	762.2	64.8	18.2	70	10	6	4	3	1	.....	1	5	.....	.....	.....	7	1.93	49.0
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.65	753.0	29.91	759.6	72.5	22.5	52	.....	8	14	6	2	.....	.....	.....	.....	.....	.....	.....	0.61	15.4
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24 91	632.7	29.75	755.7	57.2	14.0	56	2	5	5	7	1	3	5	2	.....	.....	.....	6	3.87	98.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.81	757.1	29.91	759.7	75.7	24.3	51	3	9	7	.....	6	2	.....	2	1	.....	.....	2	0.12	3.0
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.84	605.6	.....	.....	.....	.....	.....	9	8	2	4	3	2	.....	2	.....	.....	.....	4	1.28	32.6
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.26	743.2	29.98	761.6	63.0	17.2	76	1	13	5	2	2	1	2	4	.....	.....	.....	.....	5.41	137.4
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.89	759.2	30.05	763.2	66.9	19.4	65	6	10	5	2	2	.....	2	3	.....	.....	.....	8	1.44	36.7
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.79	756.6	29.86	758.4	73.8	23.2	69	.....	.....	.....	.....	3	1	9	1	16	.....	.....	3	0.72	18.3
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.88	758.9	29.99	761.7	71.6	22.0	53	.....	16	3	.....	.....	1	4	5	1	.....	.....	5	1.93	49.0
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.28	540.6	.....	.....	38.5	3.6	78	1	4	6	9	.....	.....	.....	1	9	.....	.....	4	2.70	68.5
Privas. ....[mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.91	734.4	29.95	760.6	71.1	21.7	55	10	2	2	.....	10	.....	3	.....	3	.....	.....	3	2.18	55.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.16	639.1	.....	.....	45.5	7.5	92	3	3	13	3	.....	3	1	4	.....	.....	.....	8	5.92	150.3
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.97	761.2	30.00	762.0	70.3	21.3	61	2	3	14	4	1	1	1	4	.....	.....	.....	6	0.87	22.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.75	755 7	30.02	762.5	67.1	19.5	65	1	10	9	3	1	.....	2	4	.....	.....	.....	5	1.41	35.9
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.90	708.6	30.00	762.0	63.5	17.5	74	3	18	1	3	2	1	.....	2	.....	.....	.....	.....	2.64	67.0
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.95	760.7	30.01	762.2	65.1	18.4	70	5	8	4	3	3	1	.....	6	.....	.....	.....	8	1.53	38.8
Saint Brieuc	N. 48 37	E. 5 08	0.20 p.m.	346	106	29.65	753.1	30.04	763.0	61.2	16.2	73	8	5	3	4	.....	.....	2	8	.....	.....	.....	4	0.87	22.0
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.82	757.4	30.00	761.9	64.0	17.8	68	11	2	6	7	2	1	1	.....	.....	.....	.....	8	3.68	93.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.36	745.8	30.09	764.2	68.2	20.1	64	2	11	11	1	.....	3	.....	2	.....	.....	.....	7	2.97	75.5
Sub-Series,																										
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.93	760.3	30.08	764.1	66.9	19.4	68	3	6	14	3	1	.....	.....	3	.....	.....	.....	7	6.30	160.1
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.48	723.5	29.91	759.8	61.5	16.4	64	2	5	7	5	.....	.....	1	8	2	.....	.....	7	5.77	146.6
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.04	737.7	29.90	759.4	65.5	18.6	65	2	15	7	2	.....	.....	.....	4	.....	.....	.....	7	2.87	73.0
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.73	755.1	29.89	759.3	67.6	19.8	45	4	1	3	5	5	.....	4	8	.....	.....	.....	6	1.82	46.1
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.35	745.4	29.89	759.2	65.5	18.6	57	5	9	5	2	1	2	2	3	1	.....	.....	8	4.56	115.9
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.48	748.9	29.95	760.6	63.9	17.7	69	2	2	1	15	3	2	.....	5	.....	.....	.....	9	7.34	186.3
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.18	741.1	29.91	759.6	63.7	17.6	64	12	3	3	7	.....	1	1	3	.....	.....	.....	8	4.82	122.4
Frankfort on M.	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.54	750.4	29.95	760.6	66.0	18.9	63	6	3	4	6	4	.....	3	4	.....	.....	.....	8	3.03	77.0
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.54	724.8	29.93	760.3	64.2	17.9	69	.....	.....	7	19	2	.....	.....	2	.....	.....	.....	7	12.24	311.0
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.81	757.1	29.92	759.9	64.8	18.2	67	5	6	2	6	.....	.....	6	5	.....	.....	.....	7	2.80	71.1
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.85	758.3	29.89	759.2	61.2	16.2	62	4	4	8	.....	.....	2	1	11	.....	.....	.....	5	1.50	38.0
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.47	748.4	29.89	759.3	65.5	18.6	67	1	7	3	4	3	2	3	7	.....	.....	.....	8	4.04	102.1
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.82	757.3	29.90	759.4	64.2	17.9	64	2	12	4	4	1	1	1	5	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.11	713.9	29.98	761.4	63.3	17.4	62	2	7	7	2	.....	1	1	5	5	.....	.....	7	8.74	222.1
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.83	757.7	29.89	759.2	62.1	16.7	66	9	1	5	.....	1	.....	9	5	.....	.....	.....	6	1.91	48.6
Neustadt a.	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.40	746.7	29.93	760.3	64.8	18.2	74	5	2	7	8	5	.....	.....	.....	2	.....	.....	9	6.30	160.1
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.04	737.5	29.93	760.2	63.5	17.5	67	3	14	3	5	.....	1	2	4	.....	.....	.....	8	5.20	132.0
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.86	758.5	29.91	759.7	62.8	17.1	66	6	2	7	4	1	2	3	5	.....	.....	.....	5	1.15	29.1
GREEK.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.49	749.0	29.84	757.8	83.8	28.8	44	.....	3	1	8	3	8	.....	7	.....	.....	.....	3	0.15	3.7
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.47	748.6	29.47	748.6	90.8	32.7	66	.....	.....	14	15	1	.....	.....	.....	.....	.....	.....	3	0	0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.05	738.0	29.54	750.4	99.1	37.3	36	1	.....	5	14	6	2	1	1	.....	.....	.....	5	1.12	28.4
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.62	752.5	29.60	751.9	84.4	29.1	77	1	4	20	5	.....	.....	.....	.....	.....	.....	.....	5	43.44	1103.4
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.82	706.5	29.58	751.3	81.0	27.2	65	.....	2	16	12	.....	.....	.....	.....	.....	.....	.....	7	2.69	68.3
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.18	690 4	29.64	752.8	73.5	23.1	84	a	.....	.....	2	21	6	.....	9	.....	.....	.....	7	10.47	266.4
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.74	729.9	29.38	746.1	99.8	37.7	35	5	2	4	3	2	4	5	1	4	.....	.....	4	3.93	99.8
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.57	725.7	29.39	746.5	95.5	35.3	41	.....	.....	12	1	5	3	1	.....	8	.....	.....	4	4.61	117.1
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.91	734.2	29.40	746.7	97.6	36.4	42	4	9	7	.....	.....	2	4	4	.....	.....	.....	4	5.26	133.6
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.51	724.1	29.46	748.3	88.5	31.4	58	5	7	5	3	2	2	1	3	2	.....	.....	8	5.95	151.1
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.19	715.9	29.44	747.9	88.3	31.3	58	7	8	1	7	.....	4	.....	2	1	.....	.....	8	11.48	291.6
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.12	739.5	29.43	747.5	95.6	35.3	52	5	2	2	3	5	4	2	3	4	.....	.....	4	13.69	347.7
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.16	740.7	29.41	747.0	96.5	35.8	45	5	11	.....	2	1	2	5	1	3	.....	.....	4	7.65	194.3
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.31	744.5	29.44	747.8	93.5	34.2	55	.....	4	2	.....	.....	.....	.....	12	7	5	.....	5	4.83	122.7
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.55	699.6	29.44	747.9	85.1	29.5	.....	4	6	2	1	2	5	4	4	2	.....	.....	5	6.44	163.6
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.45	748.1	29.47	748.6	85.5	29.7	78	.....	.....	.....	8	5	6	6	2	.....	3	.....	9	12.99	329.9
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.50	749.4	29.47	748.5	85.3	29.6	78	1	.....	.....	1	5	11	8	2	2	.....	.....	8	11.52	292.6
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.45	748.1	29.52	749.8	83.3	28.5	84	1	.....	.....	.....	2	5	1	1	5	15	.....	6	22.62	574.5
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.52	749.8	29.56	750.7	81.1	27.3	89	.....	.....	2	1	5	12	7	1	1	.....	.....	7	42.07	1068.6
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.26	743.2	29.54	750.3	84.8	29.3	82	2	2	1	9	3	1	2	10	.....	.....	.....	6	12.01	305.0
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.09	713.6	29.43	747.4	96.0	35.6	39	3	14	4	2	2	1	2	1	1	.....	.....	6	1.61	40.9
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.17	715.4	29.53	750.0	87.5	30.8	56	.....	1	14	15	.....	.....	.....	.....	.....	.....	.....	8	0	0
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.46	748.2	29.66	753.3	91.4	33.0	50	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	0.61	15.5
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.41	747.1	29.81	757.1	73.9	23.3	57	1	.....	1	4	2	3	3	1	5	.....	.....	6	4.21	107.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.35	745.5	29.85	758.2	74.5	23.6	50	2	4	5	8	3	1	5	2	.....	.....	.....	6	3.65	92.8
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.72	755.0	29.83	757.7	72.7	22.6	56	2	4	4	9	1	4	.....	5	1	.....	.....	6	4.95	125.7
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	28.96	735.5	29.83	757.7	72.7	22.6	53	1	3	3	3	3	7	10	.....	.....	.....	.....	6	4.60	116.8
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.68	753.9	29.87	758.7	71.1	21.7	65	3	.....	.....	16	2	8	1	.....	.....	.....	.....	5	9.28	235.6
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.82	757.4	29.87	758.6	71.2	21.8	67	3	3	3	2	.....	5	5	9	.....	.....	.....	5	6.63	168.3
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.62	752.3	29.87	758.6	74.7	23.7	52	4	4	8	8	4	1	.....	1	.....	.....	.....	7	5.15	130.8
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.81	757.2	29.89	759.3	73.8	23.2	61	.....	4	16	7	3	.....	.....	.....	.....	.....	.....	5	2.75	69.8
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.72	754.9	29.89	759.2	77.5	25.3	48	.....	.....	9	16	4	.....	.....	1	.....	.....	.....	6	1.24	31.4
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.63	752.5	29.87	758.7	77.2	25.1	43	.....	2	3	4	3	5	3	10	.....	.....	.....	3	1.26	31.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.00	736.5	29.86	758.4	77.5	25.3	67	.....	9	14	3	.....	3	1	.....	.....	.....	.....	5	1.02	25.9
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.70	754.4	29.95	760.6	77.2	25.1	54	.....	7	3	.....	.....	.....	1	16	3	.....	.....	4	0.16	4.0
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.86	758.5	29.91	759.6	76.5	24.7	63	6	.....	2	2	5	3	6	6	.....	.....	.....	3	0.13	3.2
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22.14	562.4	.....	.....	43.5	6.4	68	.....	.....	5	9	1	2	2	11	.....	.....	.....	8	5.70	144.7
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.16	562.9	.....	.....	42.8	6.0	64	1	6	7	8	1	4	2	1	.....	.....	.....	8	.....	.....
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.82	757.4	29.86	758.4	63.8	17.7	93	4	1	9	.....	.....	.....	10	3	3	.....	.....	5	8.21	209.0
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.81	757.1	29.83	757.7	62.6	17.0	83	3	.....	4	5	1	.....	.....	.....	17	2799	4503	4	5.48	139.3
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	29.84	758 0	29.84	757.8	66.5	19.2	85	9	4	.....	3	1	.....	.....	1	12	3736	6012	6	4.41	111.9
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	29.85	758.3	29.88	759.0	69.4	20.8	80	4	.....	.....	3	4	4	4	2	9	2332	3753	6	9.58	243.1
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.82	757.5	29.83	757.5	57.9	14.4	88	2	2	4	3	4	5	4	1	5	4533	7295	6	4.39	111.2
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.80	756.9	29.87	758.6	68.4	20.2	87	.....	.....	7	.....	5	2	6	1	9	.....	.....	6	5.50	139.8
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.85	758.1	29.84	757.8	68.7	20.4	85	7	.....	8	7	1	.....	.....	1	6	3088	4969	6	5.18	131.4
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.78	756.3	29.85	758.2	67.2	19.6	85	1	.....	1	3	2	3	8	.....	12	2502	4026	6	7.22	183.2
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.88	759.0	29.86	758.4	70.6	21.4	86	1	3	2	1	5	2	3	1	12	2367	3809	7	14.06	356.9
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.71	754.7	29.85	758.3	68.8	20.4	81	9	1	.....	3	9	2	2	2	2	2844	4577	6	*5.31	134.6
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.88	758.9	29.86	758.6	70.8	21.6	88	1	7	5	1	5	2	3	1	5	4137	6656	7	11.97	304.2
Minsaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.87	758.7	29.86	758.5	70.9	21.6	87	3	.....	8	.....	5	2	4	3	5	4864	7828	7	14.48	368.2
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.76	755.8	29.85	758.1	60.1	15.6	88	3	1	5	10	5	1	2	3	.....	2537	4085	4	3.54	89.8
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.66	753.5	29.83	757.7	69.5	20.8	87	2	1	.....	9	4	3	3	1	7	4273	6876	7	14.53	369.1
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.80	757.0	29.84	758.1	50.0	10.0	94	5	.....	.....	5	9	4	2	.....	5	4509	7257	7	2.96	75.1
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.83	757.7	29.85	758.1	65.8	18.7	85	2	1	.....	5	1	3	.....	3	15	4067	6545	6	5.12	130.3
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.86	758.4	29.86	758.4	62.5	16.9	88	5	2	.....	1	10	7	3	.....	2	6809	10957	5	4.72	119.6
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.86	758.5	29.87	758 7	68.6	20.3	84	1	1	7	3	3	.....	9	4	2	.....	.....	6	3.14	79.8
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.84	757.9	29.85	758.3	70.0	21.1	79	5	2	10	3	3	.....	3	1	3	6202	9981	6	5.74	145.5
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.84	758 0	29.83	757.6	67.8	19.9	82	1	3	8	1	2	1	3	2	9	3746	6028	6	3.66	92.9
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.70	754.4	29.87	758.7	67.3	19.7	86	.....	5	4	2	.....	1	11	.....	7	.....	.....	6	6.26	159.5
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.75	755.7	29.79	756.7	54.8	12.6	87	1	.....	.....	4	9	3	6	.....	7	8500	13677	6	3.81	97.0
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.75	755.7	29.82	757.2	59.1	15.0	86	2	6	1	1	5	9	.....	1	5	7498	12065	6	4.56	116.0
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.82	757.3	29.87	758.6	67.6	19.8	85	2	1	2	2	17	.....	5	.....	1	6552	10544	6	3.17	80.5
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.82	757.5	29.85	758.1	69.9	21.1	78	4	1	2	3	10	.....	.....	2	8	3174	5108	5	6.16	156.4
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.96	761.0	30.08	764.0	72.8	22.7	63	.....	.....	.....	.....	.....	12	18	.....	.....	.....	.....	6	0.65	16.5
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.63	600.2	29.87	758.7	62.1	16.7	76	3	5	3	9	....	1	2	7	.....	.....	.....	6	5.98	151.8
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.28	616.7	29.90	759.4	62 3	16.8	85	4	12	4	5	3	.....	2	.....	.....	.....	.....	9	3.99	101.3
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.65	753.1	29.86	758.4	78.0	25.6	81	.....	4	.....	4	1	8	9	4	.....	.....	.....	5	Inap.	Inap.
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.06	585.8	30.00	762.0	55.9	13.3	81	.....	3	.....	.....	.....	.....	.....	1	26	.....	.....	7	3.95	100.4
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.95	760.6	29.97	761.1	62.4	16.9	.....	11	4	5	5	1	.....	2	2	.....	.....	.....	.....	0.73	18.6
Groningen *a*	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.85	758.2	29.93	760.1	60.6	15.9	.....	7	5	4	.....	2	1	3	7	.....	.....	.....	.....	2.89	73.4
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.93	760.1	29.95	760.6	58.1	14.5	.....	4	4	3	7	1	.....	2	9	.....	.....	.....	.....	0.92	23.5
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.94	760.5	29.96	761.0	63.1	17.3	.....	7	4	5	6	1	.....	1	5	1	.....	.....	.....	1.28	32.4
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.89	759.2	29.96	760.9	63.9	17.7	.....	11	3	3	9	2	1	1	.....	.....	.....	.....	4	3.02	76.8
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.74	755.5	79.7	26.5	.....	2	.....	1	3	.....	1	7	9	7	.....	.....	5	2.52	64.
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.78	756.3	29.92	759.9	57.9	14.4	62	.....	10	3	3	9	1	.....	1	3	.....	.....	6	4.23	107.5
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.76	755.9	29.90	759.5	55.8	13.2	66	10	3	2	8	3	.....	1	1	2	.....	.....	6	3.49	88.7
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.65	753.2	29.87	758.8	65.3	18.5	45	2	1	3	6	10	1	2	4	1	.....	.....	6	2.36	59.9
Gjesvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.84	757.8	29.98	761.4	48.9	9.4	.....	1	3	9	.....	.....	.....	4	2	11	.....	.....	6	0.93	23.7
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.08	763.9	30.13	765.3	70.0	21.1	67	.....	.....	.....	22	1	5	.....	.....	2	.....	.....	6	0.21	5.4
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.74	755.3	30.05	763.2	70.9	21.6	58	9	5	2	9	2	1	.....	2	.....	.....	.....	4	1.30	33.1
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.17	766.4	30.22	767.7	69.4	20.8	72	7	1	7	6	2	.....	3	.....	4	.....	.....	4	2.56	64.9
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.97	761.2	29.94	760.5	77.5	25.3	66	20	.....	.....	.....	.....	.....	.....	9	1	.....	.....	5	0	0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.08	713.3	29.84	758.0	76.5	24.7	66	.....	.....	1	2	.....	.....	.....	.....	27	.....	.....	3	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.34	643.6	29.98	761.4	56.3	13.5	63	*a*4	5	4	2	2	2	5	2	3	.....	.....	5	4.93	125.3
SCOTTISH.																										
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	.....	.....	29.96	761.0	.....	.....	.....	*a*6	3	14	.....	1	.....	4	1	.....	.....	.....	8	2.15	54.6
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.84	758.0	30.00	762.0	71.2	21.8	68	1	.....	3	6	10	5	3	2	.....	.....	.....	5	1.75	44.4
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.02	762.5	30.08	764.0	71.2	21.8	61	4	17	.....	.....	3	.....	.....	.....	6	1766	2842	8	1.59	40.4
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.12	688.8	30.00	761.9	66.7	19.3	59	6	4	4	4	3	1	.....	8	.....	4504	7249	4	2.04	51.9
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.81	706.4	29.93	760.3	77.2	25.1	35	2	4	5	8	3	.....	2	4	2	7167	11534	4	0.35	8.8
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	203	29.13	740.0	30.03	762.8	69.1	20.6	65	8	.....	4	6	1	2	.....	7	2	6817	10971	7	2.68	68.0
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.90	759.4	29.91	759.7	78.0	25.6	85	.....	.....	.....	.....	3	13	12	2	.....	.....	.....	4	12.01	305.0
Manilla	N. 14 35	E.120 57	8.04 p.m.	52	16	29.83	757.6	29.82	757.3	80.7	27.1	84	6	.....	3	3	5	5	6	2	.....	3572	6615	7	8.66	219.9
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.97	701.3	30.05	763.3	74.0	23.3	59	1	.....	21	3	1	1	3	.....	.....	.....	.....	3	0.03	0.8
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.96	761.0	29.98	761.6	82.2	27.9	79	2	.....	.....	.....	4	12	11	1	.....	.....	.....	4	6.21	157.8
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.78	756.4	29.87	758.7	59.4	15.2	59	8	.....	1	5	10	1	.....	4	1	.....	.....	5	2.30	58.4
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.76	756.0	29.86	758.5	63.7	17.6	53	.....	.....	2	13	5	.....	7	3	.....	.....	.....	5	1.15	29.1
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.77	756.2	29.87	758.6	63.0	17.2	55	1	4	.....	5	9	2	6	3	.....	.....	.....	4	0.68	17.4
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.66	753.4	29.87	758.8	63.5	17.5	63	2	1	2	1	8	4	5	5	2	.....	.....	5	2.71	68.8
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.75	755.6	29.84	757.9	59.9	15.5	63	6	1	10	4	1	1	3	4	.....	.....	.....	3	1.42	36.1
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.72	754 8	29.84	758.0	64.2	17.9	57	2	2	.....	5	10	4	3	4	.....	.....	.....	5	2.86	72.6
SWISS.																										
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.56	725.5	29.95	760.8	66.6	19.2	56	8	8	3	4	6	1	.....	.....	.....	.....	.....	7	1.50	38.2
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.60	757.7	77.2	25.1	51	4	.....	.....	14	4	.....	.....	8	.....	.....	.....	3	1.52	38.7
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	29.87	758.7	82.0	27.8	.....	.....	7	3	19	1	.....	.....	.....	.....	.....	.....	2	3.46	88.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.80	757.0	82.8	28.2	60	6	1	6	15	.....	.....	2	.....	.....	.....	.....	1	0	0
UNITED STATES.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.88	758.9	29.95	760.7	54.3	12.4	80	3	6	1	3	10	.....	3	1	3	3874	6234	4	0.66	16.8
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.86	758.4	29.96	761.0	59.9	15.5	77	3	3	6	4	5	2	4	3	.....	5123	8244	5	1.66	42.2
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.81	604.8	29.93	760.2	40.1	4.5	91	2	9	8	2	5	1	1	2	.....	19895	32017	4	6.09	154.7
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.85	758.2	29.98	761.5	61.2	16.2	73	4	2	13	2	.....	1	5	3	.....	7206	11597	5	1.34	34.0
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.96	761.0	29.98	761.5	59.9	15.5	90	7	1	4	5	3	3	1	5	1	6925	11144	5	2.15	54.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.96	761.0	30.00	762 0	61.8	16.6	79	1	5	2	3	1	6	1	10	1	4004	6444	6	2.14	54.4
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.88	758.9	29.98	761.5	59.9	15.5	79	3	4	3	2	3	.....	2	8	5	3167	6699	5	2.84	72.1
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.93	760.2	30.01	762.2	61.5	16.4	72	3	5	.....	1	13	3	1	1	3	4426	6479	5	3.19	81.0
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.84	757.9	30.00	762.0	62.5	16.9	81	5	6	1	2	6	3	1	5	1	5219	8390	5	3.01	76.5
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.88	758.9	29.99	761.7	64.0	17.8	82	2	4	4	5	1	3	6	4	.....	*a*5624	*a*9051	6	2.86	72.6
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.97	761.2	29.99	761.7	61.0	16.1	88	8	3	5	5	.....	1	7	1	.....	9339	15029	4	4.00	101.6
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.99	761.7	29.99	761.7	64.4	18.0	86	4	5	2	5	1	4	4	5	.....	5643	9081	6	2.56	65.0
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.95	760.7	29.98	761.5	67.0	19.4	77	7	5	1	4	2	4	3	3	1	3802	6119	6	5.64	143.3
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.90	759.4	30.00	762.0	66.3	19.1	88	4	3	3	5	4	.....	3	7	1	3701	5056	6	6.75	171.4

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for June, 1886.																			Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. States—Con.																											
M.At.States—Con.	° ′	° ′																									
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.98	761.5	29.98	761.5	68.0	20.0	84	4	1	3	3	4	5	4	5	1	6542	10528	6	2.47	62.7
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.98	761.5	29.98	761.5	68.7	20.4	85	1	1	3	6	3	2	5	7	2	8329	13404	5	4.23	107.4
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.33	745.0	29.98	761.5	66.8	19.3	87	2	2	3	6	3	4	2	8	.....	2418	3881	7	8.48	215.4
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.98	761.5	29.99	761.7	68.9	20.5	84	2	2	1	6	1	3	5	3	7	3634	5848	6	5.34	135.6
S. Atlantic states.																											
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.00	762.0	29.99	761.7	69.6	20.9	86	3	.....	5	5	1	2	5	9	.....	10179	16381	7	8.95	227.3
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.99	761.7	29.98	761.5	73.2	22.9	82	2	.....	8	8	.....	1	1	10	.....	7124	11465	6	5.51	140.0
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	29.99	761.7	29.97	761 2	74.0	23.3	88	4	.....	5	10	3	1	2	5	.....	11401	18348	6	6.52	165.6
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.95	760.7	29.96	761.0	74.4	23.6	87	2	.....	11	4	1	2	2	8	.....	8232	13248	6	3.68	93.5
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	29.95	760.7	29.98	761.5	73.1	22.8	86	1	1	8	5	1	3	1	8	2	4776	7686	6	8.81	223.8
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.18	741.2	29.98	761.5	68.4	20.2	91	2	1	1	11	2	3	5	4	1	3272	5266	7	11.04	280.4
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.95	760.7	29.97	761.2	75.2	24.0	82	3	.....	9	3	2	2	4	3	4	5869	9445	7	10.78	273.8
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.83	757.7	29.98	761.5	71.4	21.9	88	1	1	2	5	5	2	3	9	2	2502	4027	6	9.65	245.1
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.92	760.0	29.98	761.5	77.2	25.1	86	2	3	5	8	4	3	4	1	.....	5071	8161	5	7.24	183.9
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.96	761.0	29.97	761.2	78.4	25.8	82	.....	.....	3	9	2	6	4	3	3	4675	7523	5	4.78	121.4
Florida penin'la.																											
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	29.99	761.7	29.97	761.2	78.8	26.0	85	1	1	2	3	4	7	8	3	1	6752	10866	7	7.81	198.4
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.96	761.0	29.93	760.2	83.0	28.3	79	2	1	1	2	10	9	5	.....	.....	7433	11962	6	2.51	63.8
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.96	761.0	29.94	760.5	76.9	24.9	88	1	1	1	3	7	4	7	3	3	3894	6267	4	11.08	281.4
East Gulf states.																											
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.85	732.8	29.98	761.5	68.2	20.1	89	1	1	7	4	4	5	7	.....	1	5884	9469	6	8.68	220.5
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.92	760.0	29.91	759.7	78.0	25.6	83	5	1	.....	4	1	4	5	4	6	5274	8488	5	7.67	194.8
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.93	760 2	29.93	760.2	74.8	23.8	90	3	7	.....	3	1	2	3	11	.....	4896	7879	6	5.94	150.9
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.76	755.9	29.95	760.7	73.6	23.1	87	1	3	1	6	4	8	2	5	.....	3459	5567	7	8.61	218.7
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.72	754.9	29.92	760.0	72.6	22.6	90	1	3	.....	3	2	14	.....	7	.....	4186	6737	5	9.63	244.6
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.89	759.2	29.91	759.7	76.4	24.7	90	2	2	4	2	2	6	5	3	4	3839	6178	5	9.30	236.2
West Gulf states.																											
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.70	754.4	29.90	759.4	72.5	22.5	88	9	1	.....	2	6	8	1	3	.....	4281	6890	6	4.16	105.7
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.46	748.3	29.92	760.0	68.5	20.3	94	.....	1	1	.....	.....	2	17	3	6	2649	4263	6	6.09	154.7
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.62	752.3	29.89	759.2	69.6	20.9	94	3	4	1	1	3	5	6	3	4	3630	5842	7	9.28	235.7
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.88	758.9	29.88	758.9	78.1	25.6	85	5	1	1	2	11	3	2	3	2	6822	10979	5	6.19	157.2
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29 87	758.7	29.86	758.4	77.2	25.1	89	5	1	1	6	7	2	2	3	3	8029	12921	4	2.97	75.4
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.40	746.7	29.91	759.7	72.4	22.4	86	4	1	.....	4	9	2	3	7	.....	5492	8838	5	2.37	60.2
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.11	739.4	29.86	758.4	70.6	21.4	92	12	.....	.....	.....	5	2	3	3	5	4546	7316	5	3.52	89.4
Rio Grande valley.																											
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.84	757.9	29.85	758.2	74.9	23.8	97	2	2	2	3	12	3	2	3	1	4102	6601	4	7.78	197.6
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.70	754.4	29.85	758.2	75.8	24.3	91	5	.....	.....	.....	1	5	9	4	6	3853	6201	5	2.08	52.8
Ohio val. & Tenn.																											
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.20	741.7	29.98	761.5	67.8	19.9	88	.....	3	1	8	4	6	4	4	.....	3428	5518	7	7.84	199.1
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	28.99	736.3	29.98	761.5	67.7	19.8	90	3	.....	4	8	.....	.....	7	6	2	3195	5142	7	4.62	117.3
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.63	752.6	29.93	760.2	70.7	21.5	86	2	4	3	2	2	8	3	6	.....	3866	6220	7	8.06	204.7
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.40	746.7	29.94	760.5	67.6	19.8	88	1	9	2	3	4	4	2	5	.....	3327	5354	6	7.69	195.3
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.41	747.0	29.97	761.2	66.3	19.1	85	9	2	1	5	3	5	2	3	.....	4169	6709	7	5.35	135.9
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.05	737.9	29.96	761.0	63.2	17.3	82	2	3	2	3	2	9	3	6	.....	3227	5193	5	3.59	91.2
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.19	741.4	29.97	761.2	63.9	17.7	80	4	2	4	5	2	6	3	4	.....	3151	5071	6	4.92	125.0
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.33	745 0	29.97	761.2	65.0	18.3	82	.....	2	2	2	1	11	2	6	4	4158	6691	6	5.26	133.6
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.13	739.9	29.96	761.0	62.0	16.7	82	3	5	2	4	3	5	2	5	1	3682	5926	5	2.69	68.3
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.10	739.1	29.97	761.2	61.4	16.3	85	5	7	2	2	3	2	2	5	2	3521	5666	5	5.17	131.3
Lower lake region.																											
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.32	744.7	29.96	761.0	59.3	15.2	84	1	2	7	14	3	.....	2	.....	1	6165	9921	5	2.33	59.2
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.25	742 9	29.97	761.2	60.6	15.9	80	1	1	2	9	11	.....	2	4	.....	5824	9373	5	3.39	86.1
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.61	752.1	29.96	761.0	59.0	15.0	77	.....	2	9	1	10	5	1	1	1	6251	10060	5	1.03	26.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	29.96	761.0	62.6	17.0	70	1	3	2	7	9	1	1	5	1	5357	8621	4	2.77	70.4
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.32	744.7	29.98	761.5	63.2	17.3	76	5	1	4	7	7	3	1	2	.....	7029	11312	5	2.16	54.9
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.24	742.7	29.96	761.0	61.8	16.6	81	3	.....	4	4	6	8	4	1	.....	4847	7800	5	1.01	25.7
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.31	744.5	29.98	761.5	61.8	16.6	77	6	2	7	4	7	1	2	1	.....	4800	7725	4	2.69	68.3
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.28	743.7	29.97	761.2	61.6	16.4	83	7	1	5	5	1	1	3	7	.....	5603	9017	4	2.07	52.6
Upper lake region.																											
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.30	744.2	29.95	760.7	55.7	13.2	85	1	6	10	3	2	5	.....	2	1	5713	9194	5	4.02	102.1
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.29	744.0	29.94	760.5	55.5	13.1	78	10	2	.....	6	5	3	.....	4	.....	4875	7845	6	2.21	56.1
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744.5	29.96	761.0	58.0	14.4	80	3	5	1	2	2	6	6	3	2	5859	9429	2	2.31	58.7
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.29	744.0	29.94	760.5	55.5	13.1	80	1	8	4	3	4	3	6	.....	1	5062	8146	4	2.12	53.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.23	742 4	29.95	760.7	56.2	13.4	73	6	11	6	3	2	.....	.....	2	.....	5131	8257	5	3.79	96.3
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.31	744.5	29.98	761.5	58.5	14.7	81	3	3	3	3	8	3	.....	7	.....	5325	8570	4	1.02	25.9
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.28	743.7	29.97	761.2	63.7	17.6	77	3	5	2	5	4	2	1	8	.....	4932	7937	4	0.94	23.9
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.24	742.7	29.97	761.2	59.3	15.2	79	8	3	3	5	1	1	3	5	1	5645	9084	3	2.54	64.5
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.24	742.7	29.96	761.0	55.5	13.1	79	3	12	2	2	2	1	.....	0	2	3940	6341	5	5.35	135.9
Upper Miss. val.																											
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.08	738.6	29.95	760.7	59.6	15.3	85	2	7	.....	4	1	5	3	1	7	4261	6857	4	3.63	92.2
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.23	742.4	29.97	761.2	62.8	17.1	82	10	5	1	3	10	1	.....	.....	.....	5201	8370	4	1.89	48.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.33	745.0	29.96	761.0	64.2	17.9	76	3	5	1	4	4	3	2	5	3	4470	7194	3	0.49	12.4
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.11	739.4	29.98	761.5	63.1	17.3	84	10	1	2	2	5	3	1	5	1	3273	5267	4	1.21	30.7
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.29	744.0	29.96	761.0	60.9	16.1	65	2	5	.....	3	2	5	1	2	5	2068g	3328g	3	0.71	18.0
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.32	744.7	29.95	760.7	63.7	17.6	83	3	5	2	1	4	4	2	4	5	4540	7306	3	2.86	72.6
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.60	751.8	29.95	760.7	67.4	19.7	85	7	4	1	3	4	3	6	1	1	4313	6941	7	4.87	123.7
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.32	744.7	29.96	761.0	65.6	18.7	77	3	4	2	2	5	6	2	2	4	4165	6703	4	3.83	97.3
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.38	746.2	29.96	761.0	69.2	20.7	81	5	3	2	5	5	4	4	2	.....	6648	10699	4	7.09	180.1
Missouri valley.																											
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.12	739.6	29.97	761.2	64.9	18.3	84	8	4	.....	2	5	6	2	1	2	3509	5647	5	4.93	125.2
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.85	732.8	29.98	761.5	63.7	17.6	82	3	3	1	1	8	3	.....	.....	11	3964	6379	3	1.50	38.1
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.29	718 6	.....	.....	59.2	15.1	76	.....	5	2	1	.....	5	2	4	11	5040	9076	3	3.24	82.3
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28 60	726 4	29.94	760.5	56.2	13.4	88	2	10	1	.....	2	6	1	6	2	5074	8105	3	1.90	48.3
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	376	28.68	728.5	29.96	761.0	59.2	15.1	89	3	2	2	6	3	4	1	4	5	4729	7610	4	3.07	78.0
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28 93	734.8	29.97	761.2	64.2	17.9	82	4	2	2	2	3	6	4	7	.....	5468	8800	4	4.73	120.1
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.33	694.2	29.90	759.4	57.0	13.9	77	4	3	6	4	4	.....	7	.....	2	7211	11605	6	2.25	57.1
Extreme N'thwest.																											
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.97	735.8	29.94	760.5	56.2	13.4	82	6	4	.....	7	6	2	1	3	1	6119	9846	4	3.71	94.2
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.12	739.6	29.98	761.5	55.1	12.8	89	3	8	5	1	7	.....	5	.....	1	5169	8319	4	2.15	54.6
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.19	716.0	29.95	760.7	55.7	13.2	80	6	3	1	.....	2	3	6	2	7	4893	7874	4	2.03	51.6
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.95	709.9	29.95	760.7	55.7	13 2	73	2	5	4	2	2	4	4	7	.....	5830	9392	5	0.93	23.6
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.38	720 8	29.94	760.5	54.3	12.4	84	4	6	4	4	4	2	4	2	.....	7461	12007	4	2.79	70.9
Northern slope.																											
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.16	689.9	29.97	761.2	55.5	13.1	63	.....	5	13	2	.....	2	5	3	.....	7184	11561	4	1.38	35.1
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.22	691.4	29.99	761.7	53.8	12.1	64	1	.....	3	2	1	1	2	18	2782	4477	5	1.53	38.9
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.85	682.0	29.91	759.7	54.4	12.4	76	3	2	.....	6	1	12	1	.....	5	4413	7102	5	2.90	73.7
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.60	650.2	29.93	760.2	51.2	10.7	64	7	4	2	.....	3	5	2	7	.....	5799	9332	6	2.55	64.8
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.38	670.0	29.96	761.0	49.2	9.6	70	1	4	18	3	.....	1	1	1	1	3151	5071	5	1.64	41.7
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.88	657.3	29.95	760.7	51.3	10.7	68	1	.....	.....	29	.....	.....	.....	.....	.....	5825	9374	4	1.14	29.0
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2000	610	27.85	707.4	29.96	761.0	55.5	13.1	76	5	3	8	1	4	2	3	4	.....	5665	9117	4	0.80	20.3
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.44	646 2	29.88	758.9	52.8	11.6	73	1	2	.....	4	4	.....	1	17	1839	2960	2	2.00	50.8
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.07	611.4	29.82	757.4	49.4	9.7	70	4	9	3	4	3	3	.....	2	2	5780	9302	5	4.52	114.8
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.10	688.3	29.88	758.9	58.8	14.9	86	1	3	4	1	4	5	8	4	.....	6360	10235	4	1.14	29.0

RESULT OF SIMULTANEOUS OBSERVATIONS FOR JUNE, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity.	WIND. Directions.								WIND. Total Movement.		Average Cloudiness.	TOTAL PRECIPITATION.	
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
U. STATES—Con.	° ′	°																								
Middle slope.																										
Pike's Peak	N. 38 50	W.105 02	5.00 a.m.	14134	4308	18.00	457.2	29.81	757.2	29.6	—1.3	81	8	4	7	5	1	.....	.....	4	1	10062	16193	2	2.44	62.0
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.52	724.4	29.92	760.0	61.8	16.6	90	3	4	2	3	4	2	3	5	4	5388	8671	4	3.20	81.3
Denver	N. 39 45	W.105 00	5.00 a.m.	5294	1614	24.18	614.2	29.84	757.9	54.6	12.6	75	9	.....	2	5	12	.....	1	1	.....	4990	8030	3	2.26	57.4
W. Las Animas	N. 38 04	W.103 12	5.07 a.m.	3899	1188	26.11	663.2	29.86	758.4	58.3	14.6	84	2	1	8	2	1	3	9	1	3	5821	9368	4	1.19	30.2
Dodge City	N. 37 45	W.100 00	5.20 a.m.	2517	767	27.42	696.5	29.89	759.2	62.1	16.7	90	2	3	2	4	6	3	3	3	4	7740	12456	4	5.47	138.9
Fort Elliott	N. 35 30	W.100 21	5.19 a.m.	2650	808	27.25	692.1	29.90	759.4	64.2	17.9	81	5	3	.....	3	3	5	4	2	5	7784	12527	5	3.45	87.6
Southern slope.																										
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.73	729.7	29.90	759.4	69.3	20.7	80	17	.. ...	.....	.....	7	.....	.....	5	1	8479	13645	4	1.08	27.4
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28.10	715.3	29.91	759.7	70.8	21.6	77	2	3	.....	5	9	3	.....	4	4	5676	9134	4	3.38	85.9
Fort Stockton *j*	N. 30 53	W.102 53	5.08 a.m.	3004	916	26.94	684.3	29.82	757.4	66.5	19.2	78	1	1	.....	2	9	4	.....	2	1	4125	6638	3	1.47	37.3
Fort Davis	N. 30 38	W.103 56	5.04 a.m.	4928	1502	25.20	640.1	29.77	756.1	64.6	18.1	61	1	2	8	9	.....	.....	.....	6	4	4828	7770	2	2.18	55.4
Fort Stanton	N. 33 30	W.105 26	4.58 a.m.	6100?	1859?	24.03	610.4	.....	.....	50.8	10.4	60	.....	12	7	2	4	2	1	2	.....	4074	6556	2	1.61	40.9
Southern plateau.																										
Keeler	N. 36 35	W.117 50	4.09 a.m.	3622	1104	26.24	666.5	.....	.....	65.8	18.8	46	9	3	.....	.....	1	1	8	5	3	4623	7440	0	0	0
Santa Fé	N. 35 41	W.105 57	4.56 a.m.	7026	2141	23.35	593.1	29.85	758.2	53.9	12.2	57	3	1	.....	.....	3	1	7	14	1	4589	7385	2	0.95	24.1
Fort Thomas *d*	N. 33 04	W.110 02	4.40 a.m.	2710	826	27.18	690.4	29.78	756.4	60.3	15.7	53	1	3	3	.....	3	3	6	2	5	2422*e*	3898*e*	1	0	0
Fort Apache	N. 33 48	W.109 57	4.40 a.m.	5050	1539	25.05	636.3	29.78	756.4	52.3	11.3	39	.....	1	.....	2	.....	2	8	17	.....	5548	8928	0	0.19	4.8
Fort Grant	N. 32 39	W.109 57	4.40 a.m.	4856	1480	25.26	641.6	29.77	756.1	62.5	16.9	39	4	4	7	1	.....	7	2	5	.....	5038	8107	2	0.73	18.5
Prescott	N. 34 33	W.112 28	4.30 a.m.	5389	1643	24.73	628.1	29.77	756.1	51.3	10.7	53	.....	1	.....	14	1	.....	.....	.....	14	4971	8000	1	0	0
Yuma	N. 32 45	W.114 36	4.22 a.m.	141	43	29.63	752.6	29.75	755.6	70.6	21.4	74	.....	3	.....	5	9	5	3	1	4	4417	7108	0	0	0
El Paso	N. 31 47	W.106 30	4.54 a.m.	3764	1147	26.24	666.5	29.80	756.9	67.3	19.6	57	1	1	7	.....	.....	2	8	7	4	2492	4010	2	1.03	26.2
Middle plateau.																										
Fort Bridger	N. 41 28	W.110 30	4.38 a.m.	6643?	2025?	23.57	598.7	.....	.....	42.0	5.6	77	.....	.....	1	19	8	.....	.....	1	1	5214	8391	2	1.16	29.5
Salt Lake City	N. 40 46	W.111 54	4.32 a.m.	4348	1325	25.60	650.2	29.82	757.4	59.7	15.4	83	6	1	.....	.....	3	6	6	6	2	4146	6672	2	1.02	25.9
Frisco	N. 38 25	W.113 16	4.27 a.m	6400	1950	23.73	602.7	.....	.....	60.1	15.6	35	5	1	.....	19	1	.....	1	3	.....	8348	13435	0	Inap.	Inap.
Winnemucca	N. 40 58	W.117 43	4.09 a.m.	4358	1328	25.62	650.7	29.87	758.7	50.0	10.0	48	1	.....	.....	15	.....	.....	6	8	.....	5761	9271	1	0.76	19.3
Montrose	N. 38 30	W.107 56	4.48 a.m.	5780	1762	24.32	617.7	29.82	757.4	53.8	12.1	53	.....	.....	1	1	8	17	2	1	.....	5981	9625	1	0.01	0.3
Fort Bidwell	N. 41 53	W.120 11	3.59 a.m.	4640	1414	25.39	614.9	.....	.....	51.4	10.8	48	2	4	23	1	... ..	.....	.....	.....	.....	3962	6376	2	0.78	19.8
Northern plateau.																										
Boisé City	N. 43 37	W.116 08	4.15 a.m.	2750	838	27.14	689.3	29.92	760.0	53.0	11.7	71	2	3	2	.....	1	11	7	.....	4	3302	5314	2	0.44	11.2
Spokane Falls	N. 47 40	W.117 25	4.10 a.m.	1909	582	27.96	710.2	30.01	762.2	53.7	12.1	57	2	.....	6	4	5	1	2	1	9	3845	6188	2	0.57	14.5
Walla Walla	N. 46 03	W.118 18	4.07 a.m.	1018	310	28.92	734.6	.....	.....	58.9	14.9	53	.....	.....	3	8	15	4	.....	.....	.....	4853	7810	5	0.73	18.5
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W.124 04	3.44 a.m.	179	55	29.84	757.9	30.04	763.0	53.5	11.9	84	7	.....	16	4	3	.....	.....	.....	.....	4883	7858	9	2.67	67.8
Olympia	N. 47 03	W.122 53	3.48 a.m.	36	11	30.02	762.5	30.06	763.5	49.4	9.7	95	2	.....	.....	.....	21	1	1	4	1	3014	4850	6	1.26	32.0
Port Angeles	N. 48 07	W.123 06	3.48 a.m.	14	4	30.02	762.5	30.04	763.0	47.7	8.7	92	.....	.....	....	3	27	.....	.....	.....	.....	3957	6368	6	0.70	17.8
Tatoosh Id.	N. 48 23	W.124 44	3.41 a.m.	86	26	29.94	760.5	30.04	763.0	51.1	10.6	92	.....	3	2	8	1	11	3	2	.....	5719	9204	8	3.13	79.5
Portland	N. 45 32	W.122 43	3.49 a.m.	80	24	29.97	761.2	30.06	763.5	54.6	12.6	87	2	7	.....	.....	1	10	1	1	8	3548	5711	5	0.67	17.0
Roseburg	N. 43 13	W.123 20	3.47 a.m.	523	159	29.53	750.0	30.08	764.0	50.8	10.4	86	1	1	2	.....	.....	.....	.....	.....	26	1099	2734	4	0.13	3.3
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W.124 24	3.42 a.m.	637	194	29.37	746.0	30.04	763.0	51.1	10.6	85	26	3	.....	.....	.....	.....	.....	.....	1	16427	26436	4	0.04	1.0
Red Bluff	N. 40 10	W.122 15	3.51 a.m.	337	103	29.55	750.6	29.89	759.2	66.9	19.4	52	6	8	.....	3	4	3	.....	3	3	5671	9226	1	Inap.	Inap.
Sacramento	N. 38 35	W.121 30	3.54 a.m.	64	20	29.82	757.4	29.87	758.7	58.2	14.6	78	2	1	.....	.....	6	18	.....	.....	3	5837	9394	0	0	0
San Francisco	N. 37 48	W.122 26	3.50 a.m.	60	18	29.90	759.4	29.94	760.5	52.7	11.5	87	.....	1	11	14	2	.....	1	.....	1	9366	15073	4	0.01	0.3
S. Pac. coast reg'n.																										
Los Angeles *a*	N. 34 03	W.118 15	4.07 a.m.	339	103	29.55	750.6	29.88	758.9	57.8	14.3	89	1	.....	9	7	5	1	1	2	4	3786	6093	5	0.11	2.8
San Diego	N. 32 43	W.117 10	4.11 a.m.	67	20	29.84	757.9	29.88	758.9	59.8	15.4	87	8	2	3	12	3	1	1	.....	.....	4534	7297	9	0.07	1.8
Alaska stations.																										
Ft. St. Michael's	N. 63 48	W.161 48	1.13 a.m.	30	9	29.89	759.2	29.97	761.2	39.7	4.3	91	1	1	4	6	3	4	2	3	6	6860	11040	8	1.77	45.0
Sitka	N. 57 03	W.135 19	2.59 a m.	63	19	29.91	759 7	30.01	762.2	48.6	9.2	83	.....	1	5	4	.....	7	3	1	9	5965	9600	8	4.53	115.1
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.03 a.m.	8655	2638	22.04	559.8	.....	.....	53.4	11.9	82	1	3	... ..	1	2	.....	.....	.....	23	.....	.....	7	.....	.....
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.91	759.7	79.6	24.6	85	.....	.....	.....	.....	.....	.....	.....	.....	.....	3816	6141	6	32.07	814.6
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.00	762.0	29.92	760.0	79.4	26.3	86	.....	.....	.....	.....	.....	2	28	.....	.....	.....	.....	5	11.90	302.3
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	29.91	759.7	30.06	763.5	75.6	24.2	81	2	5	6	3	2	4	3	5	.....	.....	.....	.....	13.71	348.2
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	64.6	18.1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.18	512.6
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.82	757.4	29.84	757.9	.....	.....	.....	1	2	2	.....	.....	1	.....	1	23	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR JUNE, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.89	759.2	79.4	26.3	1	.....	.....	.....	1	.....	3	25	.....	.....	4.4
12.5 27.5	29.92	760.0	79.4	26.3	3	.....	.....	.....	.....	2	6	19	.....	.....	4.2
12.5 32.5	29.95	760.7	79.1	26.2	.....	.....	.....	.....	.....	1	8	16	.....	5	4.2
12.5 37.5	29.97	761.2	79.4	26.3	.....	.....	.....	.....	.....	.....	20	4	.....	6	4.6
12.5 42.5	29.99	761.7	79.5	26.4	.....	.....	.....	.....	.....	.....	24	.....	.....	6	4.3
12.5 47.5	29.96	761.0	79.6	26.4	.....	.....	.....	.....	.....	2	22	.....	.....	6	4.4
12.5 52.5	29.93	760.2	80.3	26.8	.....	.....	.....	.....	.....	1	27	2	.....	.....	3.9
17.5 22.5	29.94	760.5	77.5	25.3	3	.....	.....	.....	.....	.....	10	17	.....	.....	4.4
17.5 27.5	29.97	761.2	77.3	25.2	1	.....	.....	.....	.....	1	7	21	.....	.....	4.4
17.5 32.5	30.00	762.0	77.9	25.5	1	.....	.....	.....	.....	.....	12	13	.....	4	4.1
17.5 37.5	30.02	762.5	78.5	25.8	.....	.....	.....	.....	.....	1	19	4	1	5	4.9
17.5 42.5	30.02	762.5	78.8	26.0	.....	.....	.....	.....	.....	7	18	.....	.....	5	4.2
17.5 47.5	30.01	762.2	79.5	26.4	.....	.....	.....	.....	1	3	20	1	.....	5	4.3
17.5 52.5	29.99	761.7	80.8	27.1	2	.....	.....	.....	.....	6	20	2	.....	.....	3.9
17.5 57.5	29.97	761.2	83.1	28.4	.....	.....	.....	.....	.....	3	23	4	.....	.....	3.7
22.5 22.5	30.02	762.5	75.4	24.1	1	.....	.....	.....	.....	.....	14	15	.....	.....	3.9
22.5 27.5	30.04	763.0	75.9	24.4	.....	1	.....	.....	2	3	10	14	.....	.....	3.9
22.5 32.5	30.06	763.5	76.6	24.8	2	1	.....	.....	.....	2	16	7	.....	2	3.7
22.5 37.5	30.09	764.3	77.1	25.1	1	1	.....	.....	.....	1	22	1	.....	4	3.9
22.5 42.5	30.08	764.0	79.2	26.2	1	.....	.....	.....	2	6	14	3	.....	4	3.9
22.5 47.5	30.06	763.5	78.4	25.8	1	.....	1	.....	.....	6	17	2	.....	3	4.0
22.5 52.5	30.05	763.3	79.4	26.3	3	1	.....	.....	.....	7	13	3	1	2	3.4
22.5 57.5	30.04	763.0	80.3	26.8	2	2	.....	1	1	11	10	2	1	.....	3.4
22.5 62.5	30.04	763.0	80.5	26.9	3	.....	1	.....	3	8	12	3	.....	.....	3.5
22.5 67.5	30.02	762.5	81.1	27.3	.....	.....	.....	.....	2	14	13	1	.....	.....	3.4
22.5 72.5	29.98	761.5	82.0	27.8	.....	1	.....	.....	2	18	7	.....	2	.....	3.8
27.5 22.5	30.10	764.5	73.0	22.8	3	.....	.....	.....	2	1	6	18	.....	.....	3.7
27.5 27.5	30.11	764.8	74.2	23.4	3	.....	1	.....	3	2	8	13	.....	.....	3.7
27.5 32.5	30.13	765.3	74.7	23.7	3	1	2	.....	.....	4	15	3	.....	2	3.8
27.5 37.5	30.15	765.8	75.3	24.1	1	2	.....	.....	.....	5	18	2	.....	2	3.4
27.5 42.5	30.14	765.5	75.4	24.1	3	.....	.....	.....	2	9	12	.....	.....	4	4.1
27.5 47.5	30.12	765.0	76.3	24.6	4	1	.....	.....	6	7	10	.....	.....	2	3.8
27.5 52.5	30.10	764.5	76.8	24.9	1	3	2	2	3	11	3	4	.....	1	4.0
27.5 57.5	30.09	764.3	77.5	25.3	2	3	2	1	2	9	7	1	2	1	3.4
27.5 62.5	30.08	764.0	77.2	25.1	6	2	1	.....	7	5	9	.....	.....	.....	3.3
27.5 67.5	30.06	763.5	77.9	25.5	1	.....	2	.....	9	8	5	.....	3	2	3.4
27.5 72.5	30.02	762.5	80.1	26.7	.....	.....	.....	1	10	11	7	.....	1	.....	3.5
27.5 77.5	29.99	761.7	82.2	27.9	.....	.....	.....	1	11	9	7	.....	2	.....	3.6
32.5 12.5	30.10	764.5	71.0	21.7	13	2	3	.....	.....	.....	1	11	.....	.....	3.6
32.5 17.5	30.14	765.5	70.1	21.2	13	1	1	.....	1	2	1	11	.....	.....	3.0
32.5 22.5	30.17	766.3	70.7	21.5	10	.....	.....	.....	3	1	8	8	.....	.....	3.6
32.5 27.5	30.18	766.6	71.9	22.2	4	.....	1	1	5	3	7	9	.....	.....	3.9
32.5 32.5	30.18	766.6	72.6	22.6	4	.....	4	.....	4	2	8	6	.....	2	4.1
32.5 37.5	30.19	766.8	73.0	22.8	5	3	.....	2	2	6	7	3	1	1	4.0
32.5 42.5	30.18	766.6	73.2	22.9	5	1	1	.....	8	6	6	1	.....	2	4.2
32.5 47.5	30.14	765.5	73.4	23.0	5	1	3	.....	9	7	4	.....	.....	1	4.2
32.5 52.5	30.10	764.5	74.1	23.4	3	1	3	6	10	2	4	.....	.....	1	4.1
32.5 57.5	30.08	764.0	74.3	23.5	2	6	2	3	9	4	4	.....	.....	.....	4.1
32.5 62.5	30.09	764.3	74.2	23.4	7	1	2	5	9	4	.....	.....	2	.....	3.3
32.5 67.5	30.10	764.5	77.9	25.5	5	2	.....	8	6	3	1	1	3	1	3.4
32.5 72.5	30.02	762.5	76.7	24.8	.....	1	1	11	5	8	1	2	1	.....	3.6
32.5 77.5	29.98	761.5	76.9	24.9	2	.....	4	8	5	3	4	3	1	.....	3.5
37.5 12.5	30.11	764.8	67.8	19.9	14	4	8	.....	.....	.....	.....	4	.....	.....	4.0
37.5 17.5	30.18	766.6	67.0	19.4	11	9	1	.....	1	1	3	4	.....	.....	3.1
37.5 22.5	30.21	767.3	68.4	20.2	10	6	2	.....	4	3	2	3	.....	.....	3.9
37.5 27.5	30.21	767.3	69.6	20.9	6	1	10	3	3	5	.....	2	.....	.....	4.3
37.5 32.5	30.18	766.6	69.8	21.0	4	4	2	6	10	.....	1	3	.....	.....	5.0
37.5 37.5	30.20	767.1	70.3	21.3	4	4	2	7	5	.....	4	3	1	.....	4.5
37.5 42.5	30.18	766.6	70.0	21.1	4	3	1	10	2	3	6	.....	1	.....	4.7
37.5 47.5	30.12	765.0	69.7	20.9	3	2	2	9	5	8	.....	.....	1	.....	4.7
37.5 52.5	30.07	763.8	70.2	21.2	2	1	6	7	7	4	2	.....	1	.....	4.9
37.5 57.5	30.03	762.7	70.4	21.3	5	1	4	8	8	.....	.....	4	.....	.....	4.7
37.5 62.5	30.02	762.5	69.4	20.8	5	1	7	6	4	3	.....	3	.....	1	4.8
37.5 67.5	30.01	762.2	69.1	20.6	5	3	4	6	6	2	3	.....	.....	1	4.5
37.5 72.5	30.00	762.0	68.7	20.4	3	1	3	2	4	5	3	7	1	1	3.6
42.5 12.5	30.08	764.0	66.1	18.9	8	4	8	.....	.....	.....	.....	.....	10	.....	3.6
42.5 17.5	30.16	766.1	65.0	18.3	6	5	6	2	.....	.....	6	4	1	.....	3.6
42.5 22.5	30.18	766.6	65.8	18.8	4	4	8	2	3	5	2	2	.....	.....	4.0
42.5 27.5	30.16	766.1	66.4	19.1	2	3	8	4	5	5	.....	3	.....	.....	4.7
42.5 32.5	30.15	765.8	67.2	19.6	4	2	6	9	.....	3	2	4	.....	.....	4.8
42.5 37.5	30.14	765.5	67.5	19.7	4	1	6	10	2	.....	5	.....	2	.....	4.5
42.5 42.5	30.12	765.0	66.4	19.1	2	.....	6	12	3	2	3	2	.....	.....	5.0
42.5 47.5	30.07	763.8	62.5	16.9	1	1	2	14	4	4	2	1	1	.....	4.5
42.5 52.5	29.99	761.7	62.0	16.7	1	1	2	16	3	3	3	1	.....	.....	3.7
42.5 57.5	29.97	761.2	61.8	16.6	2	2	7	7	6	.....	3	3	.....	.....	4.6
42.5 62.5	29.98	761.5	60.6	15.9	8	1	4	7	1	1	3	4	1	.....	3.9
42.5 67.5	29.97	761.2	58.0	14.4	5	1	5	2	5	.....	7	3	2	.....	3.0
47.5 12.5	30.08	764.0	61.8	16.6	7	2	8	3	1	.....	3	5	1	.....	4.0
47.5 17.5	30.12	765.0	61.1	16.2	3	3	8	2	3	2	3	4	2	.....	4.2
47.5 22.5	30.12	765.0	61.4	16.3	3	2	9	2	7	1	4	2	.....	.....	3.7
47.5 27.5	30.08	764.0	61.9	16.6	1	2	9	6	4	2	4	2	.....	.....	4.3
47.5 32.5	30.08	764.0	62.8	17.1	3	2	9	5	2	3	2	2	1	1	4.6
47.5 37.5	30.05	763.3	62.4	16.9	2	2	7	10	3	3	2	.....	1	.....	4.5
47.5 42.5	30.01	762.2	60.1	15.6	4	2	5	10	4	4	1	.....	.....	.....	4.3
47.5 47.5	29.96	761.0	54.4	12.4	3	2	1	15	3	1	4	1	.....	.....	4.3
52.5 12.5	30.04	763.0	58.5	14.7	4	5	8	7	3	.....	1	2	.....	.....	4.6
52.5 17.5	30.04	763.0	57.8	14.3	.....	3	10	5	5	1	.....	5	1	.....	4.5
52.5 22.5	30.03	762.7	57.3	14.1	2	5	9	5	5	1	2	1	.....	.....	4.5
52.5 27.5	30.00	762.0	57.2	14.0	2	3	9	9	4	2	.....	1	.....	.....	4.5
52.5 32.5	29.99	761.7	56.8	13.8	2	3	9	8	4	3	1	.....	.....	.....	4.2
52.5 37.5	29.96	761.0	55.8	13.2	1	4	9	4	8	3	.....	.....	.....	1	4.2
52.5 42.5	29.92	760.0	54.2	12.3	3	3	4	8	6	3	2	1	.....	.....	4.3
52.5 47.5	29.87	758.7	50.9	10.5	2	4	4	7	5	4	1	2	.....	1	4.7
57.5 12.5	29.92	760.0	54.3	12.4	1	8	5	8	2	2	1	3	.....	.....	5.0
57.5 17.5	29.91	759.7	53.5	11.9	1	5	6	11	1	2	3	1	.....	.....	4.8
57.5 22.5	29.90	759.4	52.7	11.5	3	4	6	7	6	2	.....	1	1	.....	5.0
57.5 27.5	29.88	758.9	51.9	11.1	3	5	9	5	5	1	1	1	.....	.....	4.1
57.5 32.5	29.89	759.2	50.8	10.4	2	9	4	5	3	2	1	1	.....	3	4.3
57.5 37.5	29.90	759.4	49.6	9.8	1	5	9	5	3	1	.....	2	.....	4	4.6
57.5 42.5	29.88	758.9	48.6	9.2	2	2	5	8	4	2	1	3	.....	3	4.6
57.5 47.5	29.86	758.4	46.7	8.2	1	2	2	5	7	3	1	4	.....	5	

REVIEW.

INTERNATIONAL METEOROLOGY FOR JUNE, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of June, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Reports from European and Asiatic Russia have not been received, and data from the territory covered by these reports are necessarily omitted.

The area of lowest mean pressure is charted over the north-central portion of British India, with reported barometric minimum 29.38 (746.2) at Lahore. Two areas of low mean pressure, bounded by isobars of 29.80 (756.9), appear, one extending over Iceland and the adjacent ocean, with recorded minimum pressure 29.74 (755.4) at Stykkisholm, and the other occupying the southwestern portion of the United States, with means ranging to 29.74 (755.4) at Yuma, Ariz. Over southwestern Europe an area of low mean pressure, which includes the Black Sea, exhibits readings ranging below 29.70 (754.4), while over the continent of Asia south of the fortieth parallel the mean barometer is everywhere below 29.80 (756.9), the low barometric means in each instance being included within the extensive system of low mean pressure central over northern British India. In the British Possessions in North America the mean pressure ranges between 29.85 (758.2) and 29.95 (760.7), except on the Pacific coast where it is slightly above 30.00 (762.0). On the west coast of Africa the mean pressure ranges to 29.79 (756.7) at Freetown, Sierra Leone.

The area of highest mean pressure is located over the north Atlantic ocean between N. 30° and 40° and W. 20° and 40°, with mean barometric maximum 30.21 (767.3) in the vicinity of the Azores. The area of high mean pressure which commonly appears over Asia cannot be located, owing to an absence of reports. An area of relatively high mean pressure extends along the Pacific coast of North America between the fortieth and sixtieth parallels, with reported barometric maximum 30.06 (763.5) at Portland, Oregon.

In the United States the mean pressure for the month is greatest along the coast of Washington Territory and Oregon, where the barometric mean is shown by the isobar of 30.05 (763.3). The mean pressure for that portion of the United States lying east of the Mississippi River averages about 29.95 (760.7), and ranges from 29.92 (760.0) to 29.98 (761.5). The area of barometric minima is enclosed by the isobar of 29.80 (756.9) and occupies a considerable extent of territory in the southwestern portion of the country, with low mean pressure ranging to 29.74 (755.4) at Yuma, Ariz. The mean pressure in Canada ranges from 29.95 (760.7) in the lower lake region to 29.85 (758.2) in the lower part of the Saint Lawrence Valley. Over the north Atlantic Ocean a barometric gradient of .47 of an inch is shown between Iceland and the Azores. Over Europe the mean pressure ranges from slightly above 30.00 (762.0) over the southern portion of the British Isles, and southward west of the meridian of Greenwich, to below 29.70 (754.4) over the Black Sea. Over Asia the highest mean pressure, 29.87 (758.7), is reported on the south coast of Hondo, Japanese Islands.

In the United States the mean pressure for June, when compared with that of the preceding month, has increased about .07 of an inch in New England, from which district the increase gradually decreases towards the west and southwest, until along the Ohio and Missouri rivers, and eastward through North Carolina, it coincides with the mean pressure for May.

To the westward of the Mississippi and Missouri valleys there has been a decrease in mean pressure, the greatest change occurring in the southwestern districts. In Canada there has been a slight increase, while in the Saskatchewan Valley there has been a slight decrease in mean pressure. Over the north Atlantic Ocean slight changes are shown in the position and included means of the permanent area of high barometer, while the area of low mean pressure which was located over Ireland in May has moved west of north over Iceland, with a decrease of about one-tenth of an inch in the barometric minimum. Over Europe there has been an increase in mean pressure of about .10 of an inch over the British Isles; over middle-western and southwestern Europe slight changes have occurred; over Scandinavia there has been a decrease of about .10 of an inch; over Italy, Austro-Hungary, and Germany the decrease ranges from .10 to .20 of an inch, while in the vicinity of the Black Sea it amounts to .30 of an inch. Over British India there has been a decrease of .10 of an inch within the permanent area of low mean pressure. Over the Japanese Islands the decrease in mean pressure averages less than .10 of an inch.

In the United States the mean pressure was about, or slightly above, the normal, except in California, Texas, and the region lying east of the Mississippi River and south of Pennsylvania and the Ohio River. In Canada the mean pressure was slightly above the average, except on the shore of Lake Erie and the northeast point of Nova Scotia; the departure being small in every case. In the British Isles the mean pressure was somewhat in excess at the southern stations and slightly defective in the north. Over the balance of Europe the mean pressure was below the normal, except in Norway, by amounts ranging from .02 in France to .08 of an inch in Austro-Hungary and Italy. In British India the mean pressure averaged slightly above the normal; at Zi-Ka-Wei, China, it was somewhat below, while at Tokei, Japan, the mean pressure was .03 of an inch above the normal.

In the United States the mean temperature was generally below the normal, except in the northwestern portions and in southern Florida, the most marked deficiencies occurring in the middle and south Atlantic states and Ohio Valley, where the mean temperature was about 3°.5 below the average for June. In Canada the mean temperature was below the normal in Ontario and Quebec, the defect being greatest in the northern localities. In British Columbia, Manitoba, and the Maritime Provinces it was above the normal. In the British Isles the mean temperature was slightly below the normal at all stations. Over the continent of Europe the mean temperature was below the normal, except in Sweden, by average amounts ranging from 0°.4 in the British Isles to 3°.6 in Germany. In British India the mean temperature averaged slightly above the normal; a Zi-Ka-Wei, China, it was below, and at Tokei, Japan, it was somewhat above the normal.

The following table shows the mean pressure and mean temperature for June, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	June mean of 9 (1877-'85) years.	June, 1886.	Departure.	June mean of 9 (1877-'85) years.	June, 1886.	Departure.
				°	°	°
Austro-Hungary	29.90	29.82	— 0.08	70.9	69.2	— 1.7
British Isles	29.95	30.02	+ 0.07	60.8	60.4	— 0.4
Denmark	29.93	29.90	— 0.03	61.0	59.7	— 1.3
France	30.01	29.99	— 0.02	69.6	66.8	— 2.8
Germany	29.98	29.92	— 0.06	67.6	64.0	— 3.6
India	29.47	29.49	+ 0.02	88.9	89.1	+ 0.2
Italy	29.95	29.87	— 0.08	75.4	74.4	— 1.0
Norway	29.87	29.92	+ 0.05	58.9	57.0	— 1.9
Spain*	30.01	30.01	normal.	73.5	71.0	— 2.5
Sweden	29.90	29.86	— 0.04	59.8	61.8	+ 2.0

* Means for eight years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of June, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	June mean of 9 (1877-'85) years.	June, 1886.	Departure.	June mean of 9 (1877-'85) years.	June, 1886.	Departure.
				°	°	°
Athens, Greece *	29.88	29.84	— 0.04	82.5	83.8	+ 1.3
Beirut, Turkey in Asia	29.81	29.80	— 0.01	82.5	82.8	+ 0.3
Bridgetown, Barbadoes	29.96	29.89	— 0.07	82.7	85.9	+ 3.2
Cape Town, Cape of Good Hope	30.00				61.7	
Fort Napier, Natal S. Africa	30.01	30.03	+ 0.02	69.4	71.5	+ 2.1
Freetown, Sierra Leone	29.83	29.79	— 0.04	84.1	81.2	— 2.9
Funchal, Madeira Islands	30.16	30.13	— 0.03	70.4	70.0	— 0.4
Gibraltar				73.5	73.2	— 0.3
Havana, Cuba, W. I	29.99	29.91	— 0.08	80.7	78.0	— 2.7
Malta, Mediterranean Sea	29.97	29.92	— 0.05	76.3	74.7	— 1.6
Melbourne, New South Wales	30.06	30.29	+ 0.23	48.3	49.3	+ 1.0
Mauritius, Indian Ocean	30.07	30.08	+ 0.01	73.0	72.8	— 0.2
Mexico, Mexico		30.00			55.9	
Nassau, Bahamas, W. I	30.02	29.98	— 0.04	82.6	84.1	+ 1.5
Paramaribo, D. Guiana, S. A	29.98	29.92	— 0.06	79.5	79.4	— 0.1
Ponta Delgada, Azores	30.22	30.22	normal.	70.0	69.4	— 0.6
Swanbister, Orkneys		29.85			52.1	
San Juan de Puerto Rico, W. I	29.99	29.98	— 0.01	81.6	82.2	+ 0.6
Stykkisholm, Iceland	29.83	29.74	— 0.09	47.5	45.9	— 1.6
Thorshavn, Färöe Islands	29.91	29.81	— 0.10	50.6	50.7	+ 0.1
Tokei, Japan	29.84	29.87	+ 0.03	67.3	67.6	+ 0.3
Zi-Ka-Wei, China	29.75	29.74	— 0.01	70.9	69.3	— 1.6

* Means for eight years only.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	99.8	37.7	Fort Saint Michael's, Alaska	39.7	4.3
Bridgetown, Barbadoes, W. I	85.9	29.9	Fort Bridger, Wyoming	44.7	7.1
Nassau, Bahamas	84.1	28.9	Hobart Town, Tasmania	42.0	5.6
Athens, Greece	83.8	28.8	Stykkisholm, Iceland	45.9	7.7
Key West, Florida	83.0	28.3	Sitka, Alaska	48.6	9.2
Beirut, Turkey in Asia	82.8	28.2	Bird Rocks, Canada	49.8	9.9

In the United States the winds were variable over nearly the entire country: the districts in which they were of a uniform direction were the west Gulf states, where they were mostly from the south; the extreme northwest and Missouri Valley, where northerly winds prevailed; in Montana, where they were from the west; and over southern California and western Arizonia, where the prevailing direction was southwest. Over Canada westerly winds prevailed east of the lake region, while to the westward of the eightieth meridian they were variable. Over the north Atlantic Ocean the wind-directions were governed by the area of low mean pressure which prevailed over Iceland and the high barometer area which occupied the ocean in the vicinity of the Azores. Over the British Isles the winds were variable, south to west directions being most frequently noted. Over the continent of Europe west of the fifteenth meridian the winds were variable, while to the eastward of that longitude they were mostly from the west. Over British India they were variable, while over the Japanese Islands southerly winds prevailed

In the United States the rainfall was deficient over the western and northern portions of the country, while a very large excess occurred in the region south of the Ohio and east of the Mississippi rivers. In Canada the rainfall was below the average, except in the northeastern part of Ontario and in Quebec. In the British Isles the rainfall was below the average for the month at all stations.

In the United States and Canada the month was not characterized by any marked features, and the depressions traced, while being numerous, were unimportant. Over the ocean the depressions, while being rather numerous, as a rule exhibited slight energy. The tropical cyclones which passed to the westward of the West Indies and over the Gulf of Mexico were very violent and destructive. In the British Isles the month was unusually free from storms, and the weather was cold during the greater portion of the month.

TRACKS OF AREAS OF LOW PRESSURE FOR JUNE, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during June, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-four areas of low pressure are shown, of which eleven are traced over the North American continent; nine over the north Atlantic Ocean, six over Europe, and eight off the eastern coast of Asia, over the Japanese Islands, and the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of June during the last thirteen years is 8.7, or 2.3 less than the number traced for June, 1886.

Of the low areas traced over the North American continent numbers viii and xi were of tropical origin, and were first located in the Caribbean Sea; during the northward passage of number xi over the Gulf and across the Florida Peninsula on the 30th it was accompained by gales and very heavy rainfall. Five of the low areas traced passed eastward to the Atlantic north of the Saint Lawrence River; one severe storm occurred in the west Gulf, and two developed in the Rocky Mountain regions, one of which passed southward to Texas, and the other moved eastward over British America and disappeared north of Lake Superior; but one storm is traced from the Rocky Mountain region eastward over the Mississippi Valley.

Of the nine areas of low pressure traced over the north Atlantic Ocean, five were continuations of storms which first traversed portions of the North American continent; three first appeared in the sub-tropical region north of the West Indies; two apparently developed off the coast of Europe, and one is first charted off the south coast of Greenland. Three of the storms which left the American coast are traced to European waters, their paths being to the northward of the fiftieth parallel. The general course of direction of the depressions was east-northeast; they were, as a rule, of slight depth, and their passage was unaccompanied by atmospheric disturbances of unusual violence. From the 19th to the 26th the barometric pressure was low in the vicinity and to the northward of the Azores.

The more important storms which occurred over the North American continent and the north Atlantic Ocean are described in detail in the MONTHLY WEATHER REVIEW for June, 1886, under the headings "Areas of low pressure" and "North Atlantic storms."

Of the six depressions traced over Europe, three were continuations of areas of low pressure charted on the north Atlantic Ocean, one of which advanced from the American coast; one passed east-northeast over Portugal, Spain, and the Mediterranean; one moved northeast from the south of Sicily; one advanced eastward through France and into Austro-Hungary, whence it circled northward into Poland and united with a depression which had advanced east of south from the coast of Norway in N. 67° and thence passed to the northeastward of the Black Sea, where an area of low pressure remained nearly stationary from the 12th to the 16th, inclusive; one depression developed on the southern coast of France, and, passing northeast and north, was drawn into an area of low pressure which prevailed off the coast of Norway. The depressions which occupied the ocean to the northward of the British Isles during portions of the second and third decades of the month, occasioned storms of pronounced energy; elsewhere, over and along the coast of western Europe the depressions traced were unaccompanied by noteworthy features.

The following are brief descriptions of the depressions traced over Europe:

Number xxi was a continuation of ocean depression number xii which occupied the ocean to the westward of the Bay of

Biscay from the 1st to the 3d, with barometric pressure ranging below 29.70 (754.4). During this period an area of high pressure advanced southeastward over the British Isles, and by the 4th the depression had moved south of east into France, with central pressure about 29.80 (756.9). By the 5th the centre of depression had passed eastward into Austro-Hungary, with a decrease in pressure of more than one-tenth of an inch, whence it circled slowly northward into Poland, where, remaining nearly stationary during the 8th and 9th, it united with depression number xxii which had advanced from the vicinity of Iceland to the Norwegian coast, in N. 67°, and moved east of south into southwestern Russia by the 10th, with pressure about 29.50 (749.3), where it was joined by a depression of slight energy, number xxiii, which had advanced from south of Sicily during the two preceding dates. On the 11th the depression was apparently central on the north coast of the Black Sea, and the barometric pressure continued low in that region until the 16th. Number xxiv was central over the southern extremity of Norway on the 16th, with central pressure below 29.60 (751.8), whence it had advanced over the ocean from Newfoundland. By the 17th the storm-centre had moved southeast over Denmark, and by the 18th had circled northeast into the Baltic Sea, from which position it disappeared to the eastward beyond the region of observation.

Number xxv appeared on the 18th south of Portugal, with pressure below 29.80 (756.9), and moved east-northeast into the Mediterranean by the 19th, after which it united with depression number xxvi. Number xxvi developed over the south of France during the 18th and 19th, and by the 20th had moved northeast into Austro-Hungary, with central pressure about 29.40 (746.7), whence it circled northward into the Baltic Sea by the 22d, with slight changes in pressure, and thence moving northwest over Scandinavia united with ocean depression number xvi.

Of the eight depressions traced off the eastern coast of Asia, three advanced northeastward from the China Sea, one of which is traced to the east coast of Yesso, the others disappearing over the ocean after having advanced to the vicinity of Formosa; two first appeared off the southern extremity of Corea, whence they are traced northeast over the Sea of Japan; one originated over the Sea of Japan and moved to the northward of Yesso; one is given a probable track from the eastern portion of Behring Sea to the coast of Alaska in N. 59°, and one appeared of the American coast in about N. 30° and moved northeastward into the interior. The storms traced northeastward from the China Sea and in the vicinity of the Japanese Islands were accompanied by heavy rain, and number xxvii, which advanced from Formosa to Yesso from the 2d to the 6th, was the only depression which exhibited unusually low barometric pressure, readings ranging to 29.35 (745.5) being shown over Yesso on the 5th. The storms traced off the coast of Asia increased in energy during their northeast passage, but, owing to an absence of reports from Behring Sea, their course to the eastward of the one hundred and fiftieth meridian cannot be determined. The two depressions located off the American coast were of slight depth.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◒ fair; ◉ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

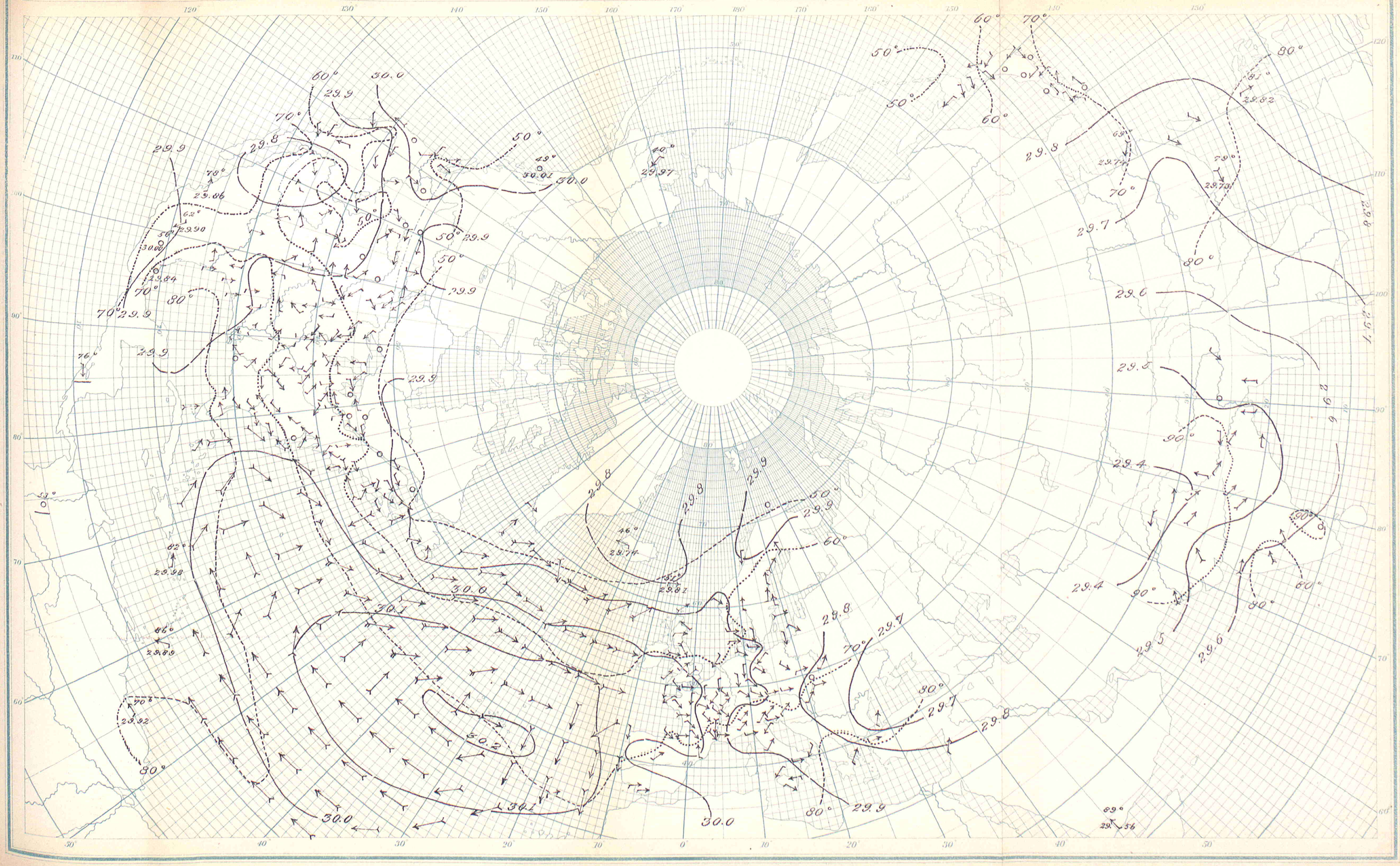
North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

South Pacific coast: California.

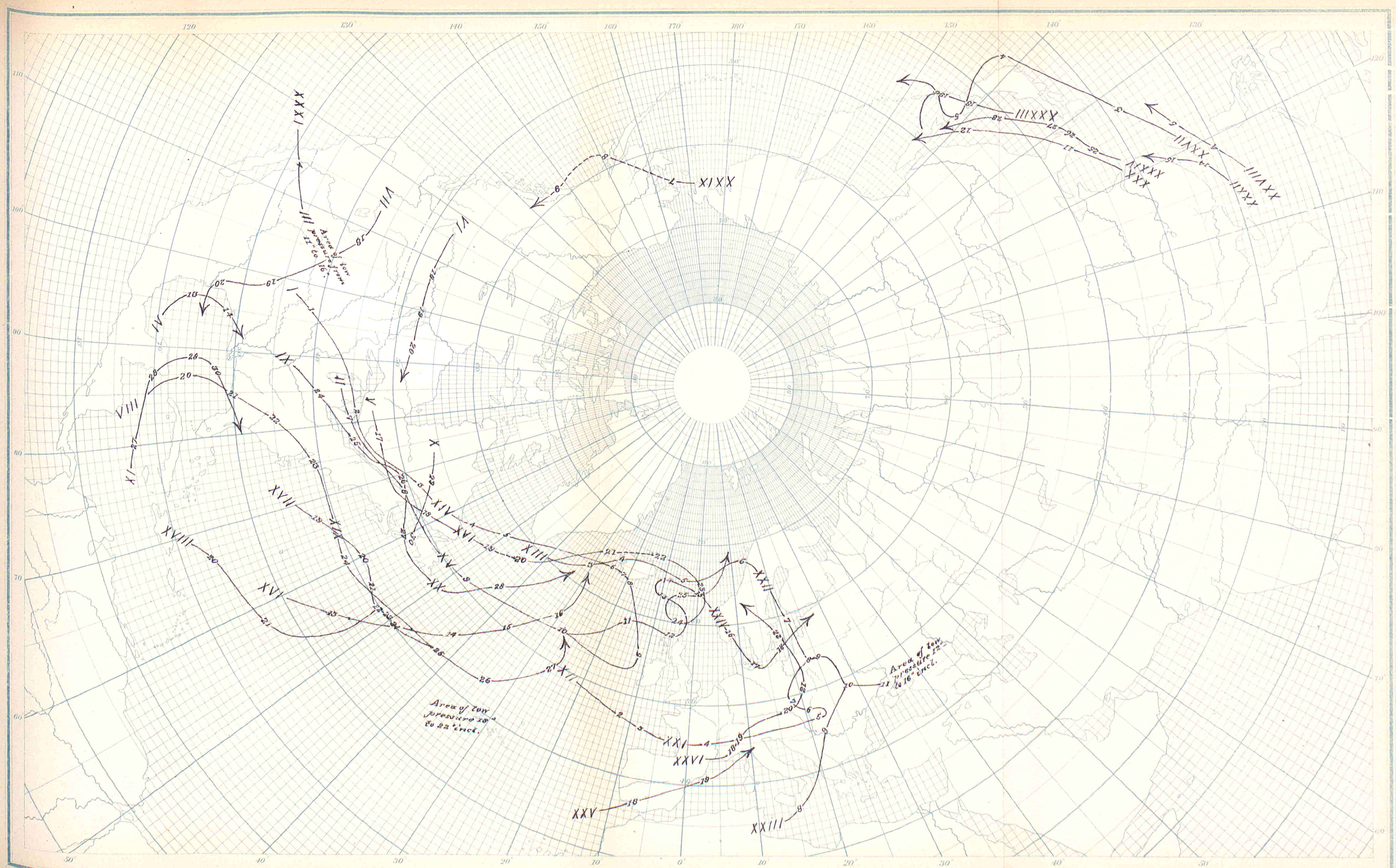
Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

International Chart II. June, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. June, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June, 1886—Continued.

	Name of vessel.	Captain.
	Wilson Line.	
Br.	s. s. Bassano	Capt. W. Rea.
	Buffalo	J. H. Malet.
	Chicago	J. W. Jones.
	Galileo	Richard Potter.
	Lepanto	Wm. Abbott.
	Otranto	Wm. Rippeth.
	Salerno	B. H. Rogers.
	Sorrento	J. T. Rogers, R N R.
	Watts, Ward Line.	
Br.	s. s. Richmond	J. Garsen.
	Camden	S. R. Chandler.
	Miscellaneous.	
Br.	s. s. Aboraca	John Temple.
	Athens	Ch. Off. Eml. Towns.
Nor.	Bedford	Capt. T. Aikenhead.
Ger.	Bratsburg	H. Neilsen.
Br.	Brutus	J. A. Voege.
	Chigwell	W. Masters.
	Chiswick	E. Leighton.
	Craighill	W. H. Bennett.
	Cranbrook	John W. Harvey.
	Edith Godden	John H. Bennett.
	El Callao	Jos. Scholtz.
Span.	Elstow	T. Robertson.
Br.	Emiliano	D. F. de Bengoa.
	Gedmandale	B. W. Hick.
Span.	Glenfalloch	R. Webster.
Br.	Hugo	A. de Mugica.
Am.	Lord Lansdowne	C H. Baskfill.
Br.	Lorenzo D. Baker	W. F. Wiley.
	Madrid	M. Garson.
	Matthew Bedlington	Thos. Kirby.
	Peconic	John Jenkins.
	Piqua	J. H. Prouse.
Ger.	Prydain	Moses Perry.
Br.	Ralatea	J. Viereck.
	Rydal Water	H. Callahan, Mate.
	Sacrobosco	R. S. Thompson.
	Stag	James Adams.
	Sulina	Thos. Potter.
	Sussex	J. P. O'Callaghan.
	Vindolana	Thos. Harrison.
	Vertumnus	C. E. Cook.
	Viola	L. Murray.
	N. Y. Herald Weather Service.	
Br.	s. s. Abyssinia	Jas. Price.
Am.	Acapulco	W. G. Shackford.
Br.	Adriatic	H. Parsell.
	Alaska	G. S. Murray.
	Alpin	J. G. Perry.
	Aurania	W. H. P. Hains
	Alvo	D. Williams.
	Arizona	Sam. Brooks.
Belg.	Baltic	G. Burton.
Br.	Belgenland	W. A. Beynon.
Am.	Britanic	H. Perry.
Am.	Chalmette	Robert B. Quick.
Br.	City of Alexandria	J. W. Reynolds.
	City of Berlin	F. S. Land.
	City of Chester	H. Condron.
	City of Chicago	Fred. Watkins.
Am.	City of Montreal	A. Redford.
Br.	City of Puebla	John Deakin.
	City of Richmond	Authur Lewis.
Am.	Celtic	Benj. Gleadell.
Br.	Colon	Chas. Lima.
Ger.	Craighill	W. H. Bennett.
Br.	Donau	C. Phole.
Ger.	Etruria	T. Cook.
Ger.	Ems	W. Willigerod.
Belg.	Lessing	B. Voss.
Br.	Nederland	A. J. Griffin.
Am.	Nevada	J. Douglass.
Belg	Newport	W. G. Shackford.
Br.	Noordland	N. E. Nickils.
Dtch.	Olympia	James Brown.
Belg.	P. Caland	F. H. Bonjer.
	Pennland	R. Weyer.

	Name of vessel.	Captain.
	Herald Weather Service—Con.	
Br.	Republic	Capt. P. J. Irving.
Br.	Richmond Hill	A. Hyde.
Belg.	Rhynland	J. C. Jamison.
Dtch.	Schiedam	G. Bakker.
Br.	Servia	A. McKay.
Fr.	St. Laurent	M. de Jousselin.
Br.	The Queen	J. Milligan.
Dtch.	W. A. Scholten	G. J. Vis.
Belg.	Waesland	J. Ueberweg.
Br.	Wisconsin	E. Bentley.
Belg.	Westernland	Com. W. G. Randle.
	Sailing Vessels.	
Br.	bk. Abyssinian	Capt. John Hughes.
Am.	bg. Abbie Clifford	D. W. Storer.
Br.	bg. Achsah	A. M. Shaw.
Nor.	sp. Ariel	Fr. Schwings.
Br.	bk. Ada Peard	N. Hocken.
It.	Agostino Bombo	V. Basso.
Am.	schr. Annie R. Lewis	L. L. Lewis.
	bg. Arcot	J. W. Cates.
Nor.	bk. Artemis	E. E. Moe.
Ger.	Athena	A. Witte.
Ger.	bk. Betty	S. Wohlmuth.
Br.	sp. British Isles	G. Southcott.
Br.	bk. British Princess	F. W. Peterson.
Ger.	sp. Caroline	Fr. Schluter.
Br.	sp. Chas. S. Whitney	Geo. D. Spicer.
Br.	bk. Childwall	T. O. Watson.
Br.	sp. City Camp	D. McLeod.
Ger.	bkt. Columbus	B. Sauermilch.
Br.	sp. Earl of Shaftsbury	W. Randall.
	E. J. Spicer	Dewis Spicer.
Am.	schr. Emily Shepard	E Coggins.
	Edward R. Emerson	A. H. Child.
Am.	bg. Ernestine	E. R. Norton.
	bk. Essex	G. W. Hall.
Br.	schr. Etta A. Watt	G. T. Lecompte.
Am.	schr. Ettie H. Lister	Smith D. Mason.
Br.	bk. Exile	G. J. Pearce.
Am.	schr. Florence Rogers	J. S. F. McLeod.
	bk. Fluorine	Wm. Manson.
Ger.	sp. Georg	G. A. Scholtz.
Am.	bk. Harriet S. Jackson	W. T Bacon.
Br.	bk Harvester	W. Cassidy.
Am.	Havana	B. F. Rice.
Ger.	sp. Hedwig	Th. Minssen.
Dtch.	bk. Helena	T. T. Verbeet.
Am.	Harvard	Samuel Pray.
	sp. Henry Villard	F. B. Perkins.
Am.	schr. Henry Waddington	W. H. Magee.
Ger.	bk. Ida	C. Fessenfeldt.
Br.	bk. Iodine	Adam Smith.
Am.	schr. John J. Hanson	L. J. Stevens.
Ger.	sp. J. W. Gildemeister	A. Lehman.
	Joseph Souther	J. W. Watts.
Br.	bk. Kryolith	W. C. Stephen.
	Laila	Paul Le Blanc.
Am.	bg. L. & W. Armstrong	A. Alexander.
Nor.	bk. Lovspring	G. Thomsen.
Ger.	bk. Leocadia	John Stohff.
Br.	bg. Lillian	H. F. Schive.
Br.	bkt. Lydia	Geo. Lowery.
	sp. Mabel Taylor	C. E. Durkee.
Am.	sp. Mary L. Stone	G. L. Josselyn.
	Magellan	E. S. Manson.
Am.	schr. Maggie Abbott	D. C. McIntosh.
Am.	bg. Mary Fink	D. B. Darrah.
	sp. Mary L. Cushing	C. Downs.
Br.	sp. Morna	J. H. Goodwin.
Am.	schr. Nellie Coleman	Geo. Hodgkins.
Am.	bkt. Nellie M. Slade	J. A. Gould.
Am.	schr. Nelson Bartlett	S. Watts.
Ger.	sp. Palme	W. Bahls.
Am.	bk. Ralph M. Hayward	J. Baxter.
Br.	bk. Recovery	T. E Blagdon.
Dan.	bk. Rialto	N. P. Hansen.
Ger.	bk. Richard	A. von Seggern.
Br.	bkt. Rosebud	John Collie.
Br.	bk. Sarah Doe	B. S. Merryman.
Am.	schr. Sarah D. J. Rawson	Thos. D. French.
Am.	bk. Sarah	L. R. Hale.
Br.	sp. Sapphire	G. W. Murray.
Ger.	sp. Shakspere	Carl Muller.

	Name of vessel.	Captain.
	Sailing vessels—Continued.	
Br.	Stephen D. Horton	Capt. J. Spicer.
Am.	sp. St. John	O. H. Fales.
Am.	bk. Samuel E. Spring	B.W. Proctor, Mate
Am.	bg. Teneriffe	N. S. Tracy.
Nor.	bk. Tros	S. Bruger.
Br.	bk. Tuck Sing	Geo N. Ryder.
Am.	Tille Baker	J. H. Carty.
Aust.	sp. The Lord Warden	J. N. Ossolnack.
Ger.	sp. Union	H. Fokken.
It.	bk. Vincenzo Accame	N. V. Lavagna.
Ger.	bk. Western Chief	Fr. Sander.
Am.	Xenia	N. E. Reynolds.
	United States Naval.	
U. S. S.	Adams	Louis Kempff.
U. S. S.	Alert	C. J. Barclay.
U. S. S.	Alliance	C. McGregor.
U. S. S.	Brooklyn	E. O. Matthews.
U. S. S.	Galena	C. W. Chester.
U. S. S.	Hartford	I. H. Gillis.
U. S. S.	Iroquois	Yates Stirling.
U. S. S.	Jamestown	Horace Elmer.
U. S. S.	Kearsarge	C. D. Sigsbee.
U. S. S.	Lancaster	E. E. Potter.
U. S. S.	Marion	Merrill Miller.
U. S. S.	Monongahela	Geo. B. Livingston.
U. S. S.	Mohican	B. F. Day.
U. S. S.	Nipsic	W. S. Dana.
U. S. S.	Omaha	T. O. Selfridge.
U. S. S.	Ossipee	J. F. McGlensey.
U. S. S.	Palos	T. Nelson.
U. S. S.	Pensacola	Geo. Dewey.
U. S. S.	Pinta	
U. S. S.	Portsmouth	C. V. Gridley.
U. S. S.	Quinnebaug	Geo. Coffin.
U. S. S.	Ranger	C E. Clark.
U. S. S.	Saratoga	C. H. Davis.
U. S. S.	Shenandoah	B. Wilson.
U. S. S.	Swatara	E. T. Windham.
U. S. S.	Tallapoosa	Wm. Whitehead.
U. S. S.	Tennessee	Robert Boyd.
U. S. S.	Trenton	R. L. Phythian.
U. S. S.	Vandalia	H. L. Howison.
U. S. S.	Yantic	F. M. Green.
	British Naval.	
H. M. S.	Alexandra	T. Fellowes, C. B.
H. M. S.	Audacious	R. H. Harris.
H. M. S.	Bacchante	A. U. Moore.
H. M. S.	Cleopatra	L. C. Keppel.
H. M. S.	Champion	A. T. Powlett.
H. M.	Dockyard, Bermuda	J. F. G. Grant.
H. M. S.	Dreadnought	F. G. D. Bedford.
H. M. S	Dart	A. M. Field.
H. M. S.	Flying Fish	J. P. Maclear.
H. M. S.	Himalaya	J. E. Stokes.
H. M. S.	Heroine	F. R. Blackburn.
H. M. S.	Myrmidon	R. F. Hoskin.
H. M. S.	Mariner	J. Durnford.
H. M. S.	Miranda	E. Rooke.
H. M. S.	Nelson	A. P. Lake.
H. M. S.	Osprey	C. E. Gissing.
H. M. S.	Penguin	F. H. Haygarth.
H. M. S.	Raleigh	A. K. Wilson, V. C.
H. M. S.	Rambler	W. U. Moore.
H. M. S.	Rifleman	C. W. Prater.
H. M. S.	Royalist	G. W. Hand.
H. M. S.	Superb	H. F. Cleveland.
H. M. S.	Sylvia	L. S. Dawson.
H. M. S.	Woodlark	E. W. Burt.
	Portuguese Naval.	
H. P. M. S.	Tamega	J. d'A. d'Avila.
	Swedish Naval.	
H. S. M. S.	Vanadis	J. Osterman.
H. S. M. S.	Saga	A. Meister.
	Dutch Naval.	
H. D. M. S.	Bromo	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of June. 1886.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	[Todd, C. M. G.
Hobart Town, Tasmania	L. C. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
Singapore	T. Irvine Rowell, M. D.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Charlottetown, P. E. Island	H. J. Cundall C. E.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape St. Francis Light House	I. Garfelt.
Cape Town, The Castle	R. Gardner Warton.
CHINESE.	
Hong Kong Observatory	The Staff.
Foochow	J. W. Segardal.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overlocrer Lauridsen.

Stations.	Observers.
DANISH—*Continued.*	
Stykkisholm, Iceland	A. O. Thorlacius.
Thorshavn	Overlocrer Bergh.
Vestervig	Locrer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Director.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Judot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	M. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuc	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.

Stations.	Observers.
ITALIAN—*Continued.*	
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Supporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	F. Weidner.
Mexico	The Staff.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia, Java	Dr. I. P. van der-Stok.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjaesvaer	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelln.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Bogota	J. G. Otero.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
Chief Signal Officer.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JULY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
OCTOBER, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Canadian	J. Kerr.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Norwegian	R. Carruthers.
Nova Scotian	R. H. Hughes.
Scandinavian	Alex. McDougal.
Siberian	R. P. Moore.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Princess	E. H. Freeth.
Am. Illinois	Geo. H. Dodge.
Br. Lord Clive	P. Urquhart.
Ocean Prince	W. J. Milburn.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
British Queen	R. Willis.
British Crown	Archibald Smith.
Circassia	A. Campbell.
City of Rome	R. D. Munroe.
Devonia	Hugh Young.
Furnessia	J. Hedderwick.
Ethiopia	John Wilson.
Italia	T. Craig.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Critic	W. R. Lord.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Span. Alpes	T. Anasagasti.
Br. Alvena	O. Hughes.
Alvo	David Williams.
Antillas	Pedro Zuloaga.
Claribel	T. M. McKnight.
ANGLO-AUSTRALIAN S. S. Co.	
Br. s. s. Port Phillip	Geo. Dulling.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Jerome	Benj. Crimp.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Lafite	
Chateau Yquem	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gage.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
Umbria	T. Cook.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Alésia	Dr. C. Ollive, Obs.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Durham City	D. D. Galbraith.
Milanese	F. Manley.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. La Bourgogne	Franquel.
La Champagne	Traub.
La Normandie	de Kersabiec.
St. Laurent	Baquesne.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Off. E. Crossmann.
Saxmundham	Capt. T. M. Milne.
Warwick	W. Janes.
GUION LINE.	
Br. s. s. Alaska	G. S. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	Capt. G. Reessing.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	H. Behrends.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
City of Richmond	A. W. Lewis.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Bessel	J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Belg. Hipparchus	W Kelly.
Br. Olbers	Jas Clark.
Mozart	T. Sawyer.
LEYLAND LINE.	
Br. s. s. Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Lydian Monarch	T. C. Haggett.
NATIONAL LINE.	
Br. s. s. Canada	Thos. Foote.
Denmark	R. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	G. Cochrane.
Holland	Wm. Tyson.
Italy	W. Pearce.
The Queen	John Milligan.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Archimede	Dominico Viola.
Indipendente	P. Pirandello.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rittig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. Aller	H. Christoffers.
America	G. Meyer.
Eider	H. Helmers.
Elbe	H. Richter.
Ems	T. Jungst.
Fulda	R. Ringk.
Leipzig	H. Christoffers.
Main	H. Christoffers.
Rhein	L. Johns.
Trave	W. Willigerod.
Werra	Richard Bussins.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gaelic	W. G. Pearne, R.N.R.
Oceanic	J. Thomson.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	J. W. Catherine.
City of Augusta	K. S. Nickerson.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Australia	Henry Webber.
Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.

Name of vessel.	Captain.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Capt Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. State of California	G. Debney.
Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP Co.	
City of New York	Robt. R. Searle.
City of Peking	J. C. Dearborn.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
San José	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Trinidad	W. J. Fraser.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
Theresina	J. Kempthorne.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Slierendregt.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. v. d. Zee.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Indiana	A. Ritchie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Braes.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Norseman	E. Maddox.
Kansas	W. Gleig.
WHITE CROSS LINE.	
Belg. s. s. De Ruyter	J. J. Brarens.
Jan Breydell	H. Meyer.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	Geo. Burton.
Britannic	P. J. Irving.
Celtic	B. Gleadell.
Germanic	C. W. Kennedy.
WILSON LINE.	
Br. s. s. Buffalo	J. H. Malet.
Chicago	J. W. Jones.
Marengo	Wm. Abbott.
Martello	T. E. Jenkins.
Salerno	B. H. Rogers.
Sorrento	J. T. Rogers, R.N.R.
MISCELLANEOUS.	
Br. s. s. Aboraca	John Temple.
Ada	E. Garner.
Auretta	G. W. Read.
Bedford	T. Aikenhead.
Camden	S. R. Chandler.
Craighill	W. H. Bennett.
Cranbrook	John W. Harvey.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF JULY, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C.
OCTOBER, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, JULY, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1886.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.												
						Actual		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																							
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	146	43	30.06	763.5	30.17	766.3	50.7	10.4	74	3	2	1	1	2	3	6	9	4	5949	9574	5	2.72	69.1
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.97	761.2	30.16	766.1	43.6	6.4	91	12	6	2	3	4	.....	1	1	2	.....	.....	5	0.85	21.6
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	30.10	764.5	30.18	766.6	46.7	8.2	86	8	1	1	6	3	3	4	5	.....	.....	.....	5	1.85	47.0
Austrian.																									
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.45	747.9	29.97	761.3	75.6	24.2	53	1	.....	10	2	12	2	3	1	.....	.....	.....	3	1.64	41.7
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.20	741.6	29.95	760.7	71.4	21.9	56	1	9	12	2	2	2	3	.....	.....	.....	.....	6	2.94	74.7
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.05	737.8	29.89	759.1	66.2	19.0	70	13	.....	.....	.....	5	.....	.....	.....	13	.....	.....	5	4.22	107.3
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28 66	728.0	29.96	761.0	72.0	22.2	66	1	4	11	2	.....	.....	.....	3	10	.....	.....	5	4.90	124.5
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.93	734.7	29.89	759.1	70.3	21.3	67	1	8	8	4	4	2	.....	4	.....	.....	.....	5	2.52	64.0
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.88	758.9	30.00	762.0	80.2	26.8	71	.....	1	11	3	6	5	3	1	1	.....	.....	1	0.78	19.9
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.47	748.5	29.92	759.9	77.5	25.3	40	7	12	3	3	1	2	2	1	.....	.....	.....	5	1.27	32.3
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	*a*29.63	*a*752.6	*a*29.91	*a*759.6	80.8	27.1	46	4	10	6	1	6	.....	.....	2	2	.....	.....	4	0.56	14.3
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.91	759.7	30.00	762.1	80.2	26.8	52	.....	3	8	10	1	1	1	6	1	.....	.....	3	1.35	34.2
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.31	744.4	29.95	760.6	76.1	24.5	53	1	6	10	1	.....	5	4	2	2	.....	.....	4	0.50	12.8
Brazilian.																									
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	30.01	762.2	30.23	767.8	64.2	17.9	85	.....	22	.....	1	1	2	.....	3	2	.....	.....	8	1.55	39.4
British.																									
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.70	754.4	29.82	757.4	58.4	14.7	70	1	4	3	4	3	11	2	3	.....	8904	14329	6	2.73	69.3
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	29.67	753.6	29.88	758.9	62.3	16.8	67	.....	3	17	2	2	3	4	.....	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.47	748.5	29.88	758.9	64.0	17.8	63	3	8	6	5	3	4	1	1	.....	.....	.....	8	4.87	123.7
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.92	760.0	29.88	758.9	83.5	28.6	73	.....	11	.....	.....	.....	.....	.....	20	.....	.....	.....	6	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.78	756.4	29.97	761.2	68.2	20.1	65	.....	.....	3	4	6	2	1	.....	15	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.77	756.1	29.97	761.2	63.9	17.7	70	.....	6	4	6	5	8	2	.....	...	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.79	705.9	30.06	763.5	64.4	18.0	34	.....	1	.....	5	3	2	1	18	1	.....	.....	3	.....	.....
Freetown	N. 8 30	W. 13 14	11.07 a.m.	224	68	29.67	753.6	29.82	757.4	81.0	27.2	91	10	.....	6	.....	7	.....	8	.....	.....	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.77	756.1	29.82	757.4	63.8	17.7	70	1	2	6	15	6	1	.....	.....	.....	.....	.....	6	5.12	130.0
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.86	758.4	30.02	762.5	76.9	24.9	68	.....	1	11	.....	.....	.....	19	.....	.....	.....	.....	2	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.75	755.6	29.94	760.5	69.7	20.9	60	5	2	5	10	7	.....	1	1	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.72	754.9	30.00	762.0	68.7	20.4	48	1	5	9	6	6	1	.....	3	.....	*c*4851	*c*7805	3	3.58	90.9
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.90	759 4	29.95	760.7	67.1	19.5	64	2	5	7	7	8	.....	.....	2	.....	.....	.....	6	.....	.....
Leicester *a*	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.65	753.1	29.92	760.0	64.7	18.2	70	3	3	7	11	4	1	1	.....	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.86	758.4	29.92	760.0	80.3	26.8	60	2	10	1	3	2	3	1	9	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.00	762.0	29.99	761.7	86.2	30.1	72	.....	.....	.....	1	10	14	5	1	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.70	754.4	29.95	760.7	67.5	19.7	60	1	5	3	9	6	4	1	2	.....	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.87	758.7	29.95	760.7	67.3	19.6	70	.....	7	4	13	2	2	1	.....	2	.....	.....	7	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.59	751.6	29.71	754.6	54.5	12.5	85	3	4	3	8	1	7	4	1	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.79	756.7	29.85	758.2	81.1	27.3	52	3	1	.....	12	3	.....	.....	12	.....	.....	.....	2	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.92	760.0	61.7	16.5	69	1	2	14	6	3	3	.....	2	.....	.....	.....	8	5.05	128.3
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	.....	.....	29.90	759.4	61.7	16.5	77	.....	7	5	9	3	7	.....	.....	.....	.....	.....	7	.....	.....
Sub-series.																									
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.65	753.1	30.00	762.0	80.7	27.0	52	2	9	6	4	3	.....	3	4	.....	4143	6668	2	.....	.....
Canadian.																									
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.82	757.4	29.87	758.7	64.5	18.1	.....	*a* 1	1	6	4	9	.....	1	2	6	.....	.....	6	6.43	163.3
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.83	757.7	29.89	759.2	60.5	15.8	84	1	3	7	10	6	.....	1	3	.....	2997	4823	6	2.40	61.0
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.69	754.1	29.88	759.2	66.6	19.2	80	.....	.....	27	2	.....	.....	1	1	.....	.....	.....	4	2.37	60.2
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.79	756.7	29.84	757.9	62.9	17.2	.....	1	1	20	1	.....	.....	6	.....	2	.....	.....	4	8.28	210.2
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.80	756.9	29.82	757.4	55.0	12.8	88	1	12	5	3	4	.....	1	1	4	.....	.....	5	1.31	33.3
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.10	739.1	29.91	759.7	58.0	14.4	87	4	5	1	6	6	3	2	4	.....	6757	10874	3	1.32	33.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.75	755.6	29.94	760.5	64.9	18.3	68	3	13	2	3	5	2	2	1	.....	5236	8426	5	1.56	39.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.88	758.7	29.93	760.2	62.0	16.7	70	1	3	7	1	3	7	.....	2	7	7414	11931	3	1.98	50.3
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.89	733.8	29.98	761.5	57.1	13.9	.....	1	.....	.....	3	.....	1	.....	1	24	1453	2338	4	1.19	30.2
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.83	757.7	29.96	761.0	63.6	17.6	85	.....	6	8	7	4	3	1	.....	2	.....	.....	4	6.53	165.9
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.61	752.1	30.00	762.0	66.5	19.2	70	4	5	7	6	1	.....	4	4	.....	.....	.....	3	1.39	35.3
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.59	751.6	29.91	759.7	63.1	17.2	83	3	2	4	9	1	.....	2	4	6	2898	4654	4	2.25	57.1
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.88	759.0	29.92	759.9	65.4	18.6	74	*a* 2	1	5	16	4	.....	.....	1	1	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.10	739.1	29.98	761.5	59.2	15.1	87	2	.....	.....	.....	.....	.....	.....	.....	29	868	1397	4	1.15	29.2
Medicine Hat *a*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.62	701.5	29.78	756.4	69.1	20.6	53	1	4	3	1	2	2	1	1	15	5982	9627	3	0.78	19.8
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.10	713.7	29.90	759.4	57.2	14.0	87	1	6	4	.....	2	3	10	4	1	5514	8874	3	1.88	47.8
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.70	754.4	29.90	759.4	63.9	17.7	77	2	2	7	10	5	2	1	2	.....	.....	.....	5	3.71	94.2
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.67	753.6	29.91	759.7	61.2	16.2	87	2	9	7	3	2	1	3	4	.....	2902	4670	4	6.77	171.9
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.27	743.4	29.95	760.7	59.3	15.2	89	6	1	5	1	6	4	2	4	2	.....	.....	3	1.56	39.6
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.18	741.2	29.94	760.5	64.7	18.2	82	4	7	3	2	1	.....	.....	2	12	.....	.....	4	2.42	61.5
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.24	742.7	29.93	760.2	58.2	14.6	83	2	4	3	5	.....	.....	2	2	13	2903	4672	3	1.63	41.4
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.28	743.7	29.95	760.7	61.8	16.6	95	5	5	.....	1	1	.....	.....	4	15	2850	4587	4	1.61	40.9
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.33	745.0	29.96	761.0	59.4	15.2	87	5	10	3	1	.....	.....	1	6	5	.....	.....	3	2.37	60.2
Qu'Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.70	703.6	29.91	759.7	60.0	15.6	68	.....	2	.....	7	6	2	4	1	9	*a*6142	*a*9883	2	2.32	58.9
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.58	751.3	29.90	759.4	60.5	15.8	86	.....	2	12	4	.....	.....	4	3	6	.....	.....	4	4.01	101.9
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.49	749.0	29.94	760.5	56.8	13.8	86	.....	8	10	.....	.....	.....	5	.....	8	.....	.....	3	2.80	71.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.86	758.4	29.91	759.7	58.3	14.6	86	1	8	.....	2	1	7	.....	3	9	.....	.....	1	1.88	47.8
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.82	757.4	29.94	760.5	59.6	15.3	83	.....	6	1	2	14	1	2	.....	5	.....	.....	6	2.69	68.2
Saint Pierre *f*	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.91	759.7	57.4	14.1	.....	.....	4	4	9	1	...	1	1	.....	.....	.....	.....	4.13	105.
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.27	743.4	29.97	761.2	57.4	14.1	87	.....	1	3	2	5	.....	1	3	16	2314	3724	3	1.02	25.9
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	.....	.....	29.76	755.9	29.81	757.2	57.1	13.9	90	2	2	6	.....	1	6	10	1	3	.....	.....	5	3.95	100.3
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.72	729.5	29.98	761.5	59.0	15.0	84	2	2	1	4	5	2	1	.....	14	2458	3956	3	1.74	44.3
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.40	695.9	29.89	759.2	62.0	16.7	.....	1	1	2	4	2	6	2	.....	13	.....	.....	1	0.20	5.1
Sydney	N. 46 08	60 10	7.59 a.m.	37	11	29.87	758.7	29.93	760.2	63.4	17.4	78	2	4	2	7	15	.....	.....	.....	1	6480	10428	6	2.36	59.9
Toronto	N. 43 39	W 79 23	6.42 a.m.	350	107	29.59	751.6	29.96	761.0	62.4	16.9	77	8	9	5	.....	1	.....	1	3	4	.....	.....	4	2.44	62.0
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.95	735.3	29.98	761.5	61.5	16.4	83	03	5	3	3	.....	1	.....	2	11	.....	.....	4	0.71	18.0
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.88	758.9	29.95	760.7	59.2	15.1	89	1	4	3	6	9	3	.....	1	4	.....	.....	2	2.81	71.4
Sub-series.																									
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.68	753.9	29.85	755.2	60.4	15.8	81	1	5	5	9	5	4	.....	2	.....	.....	.....	6	3.18	80.8
Cape Colony																									
Cape Town	S. 34 02	E. 18 29	1.14 p.m.	?	?	29.96	761.0	.....	.....	62.4	16.9	59	.....	3	.....	2	.....	4	.....	.....	22	.....	.....	2	2.72	69.1
Chinese.																									
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	29.81	757.2	29.80	756.9	80.6	27.0	87	.....	1	.....	19	.....	4	.....	4	3	.....	.....	5	5.35	135 9
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.67	753.6	29.71	754.6	80.0	26.7	82	1	.....	1	2	11	3	9	3	1	.....	.....	8	28.22	716.8
Pakhoi	N. 21 29	E. 109 06	7.17 p.m.	19	6	29.65	753.1	29.69	754.1	79.0	26.1	79	.....	2	1	10	9	8	1	.....	.....	.....	.....	.....	18.34	465.8
Sub-Series.																									
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.73	755.1	29.74	755.3	79.0	26.1	86	.....	.....	.....	.....	2	18	9	2	.....	.....	.....	6	0.12	3.1
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.72	754.9	29.78	756.4	79.1	26.2	91	3	2	3	1	3	4	:	10	4	.....	.....	7	16.40	416.6
Danish.																									
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.81	757.2	29.89	759.2	65.3	18.5	63	3	6	8	3	6	5	.....	.....	.....	.....	.....	7	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.84	757.8	29.89	759.1	62.2	16.8	77	.....	2	14	8	2	3	1	1	.....	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.73	755.1	29.84	758.0	60.6	15.9	75	.....	1	13	8	3	3	3	.....	.....	.....	.....	6	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
FRENCH.	° ′	° ′																									
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.45	748.0	30.08	763.9	75.4	24.1	70	.....	6	1	1	.....	2	.....	2	19	.....	.....	2	1.33	33.8
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.56	750 7	30.10	764.4	71.2	21.8	62	.....	1	3	12	5	3	1	6	.....	.....	.....	5	3.61	91.6
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.76	756.0	30.00	762.1	65.1	18.4	58	.....	6	8	3	3	4	.....	3	4	.....	.....	4	2.62	66.5
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.92	760.0	30.00	762.0	80.4	30.2	43	10	5	2	3	7	2	2	.....	.....	.....	.....	2	0.59	15.0
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.46	748.2	30.00	762.1	71.6	22.0	61	1	.....	3	6	5	5	4	7	.....	.....	.....	6	3.06	77.7
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.67	753.7	29.97	761.3	73.6	23.1	66	2	13	5	4	7	.....	.....	.....	.....	.....	.....	5	2.63	66.7
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.12	739.6	29.97	761.2	73.8	23.2	54	1	2	.....	9	10	1	.....	8	.....	.....	.....	3	1.05	26.7
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.78	756.4	30.03	762.8	75.6	24.2	55	4	6	6	6	.....	3	2	4	.....	.....	.....	1	2.15	54.6
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.52	749.9	30.00	762.1	74.3	23.5	53	6	3	10	5	1	3	1	2	.....	.....	.....	.....	2.70	68.5
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.72	755.0	29.98	761.5	68.0	20.0	75	5	6	1	13	3	.....	.....	3	.....	.....	.....	.....	3.36	85.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	.....	.....	.....	.....	70.0	21.1	84	7	5	5	5	5	1	1	1	.....	.....	.....	3	1.61	41.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.72	754.8	30.02	762.6	73.0	22.8	87	.....	2	5	11	9	.....	4	.....	.....	.....	.....	5	2.01	51.1
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.47	748.5	30.00	762.0	71.8	22.1	53	1	7	12	5	3	2	.....	1	.....	.....	.....	6	1.84	46.6
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.69	728.6	29.99	761.7	75.0	23.9	51	10	.....	6	3	3	3	2	4	.....	.....	.....	.....	2.31	58.7
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.19	741.5	30.02	762.5	76.5	24.7	50	2	6	4	2	2	5	1	9	.....	.....	.....	4	3.10	78.6
Commercy	N. 48 46	E. 5 35	0.22 p m	797	243	29.16	740.6	30.02	762.4	69.4	20.8	88	1	1	17	4	.....	3	1	4	.....	.....	.....	4	6.58	167.1
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.53	699.3	29.97	761.1	75.4	24.1	48	2	1	.....	2	.....	.....	.....	5	21	.....	.....	3	0.74	18.7
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.92	734.6	29.99	761.8	82.6	28.1	33	.....	1	8	5	8	7	2	.....	.....	.....	.....	5	0.42	10.6
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.34	745.2	30.08	764.0	76.1	24.5	51	1	15	2	.....	.....	1	1	1	10	.....	.....	.....	2.67	67.8
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.47	723.1	30.01	762.2	70.0	21.1	65	3	3	8	4	4	4	.....	5	.....	.....	.....	4	1.73	43.9
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.49	749.0	30.07	763 8	76.8	24.9	58	3	1	13	4	3	2	4	1	.....	.....	.....	.....	3.37	85.7
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.86	758.4	29.97	761.3	71.1	21.7	65	.....	3	4	5	12	3	.....	4	.....	.....	.....	7	2.60	66.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.99	736.3	30.00	762.1	75.9	24.4	45	6	6	2	1	5	5	3	3	.....	.....	.....	5	2.76	70.2
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.71	754.7	30.03	762.7	71.6	22.0	64	2	7	6	3	5	1	6	1	.....	.....	.....	4	2.58	65.5
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.74	755.4	30.00	761.9	79.5	26.4	47	.....	5	11	11	4	.....	.....	.....	.....	.....	.....	.....	0.21	5.4
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	28.95	735.2	29.85	758.2	66.9	19.4	52	1	3	6	11	1	5	4	.....	.....	.....	.....	4	1.66	42.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.87	758.7	29.97	761.3	83.1	28.4	49	4	8	4	1	4	7	3	.....	.....	.....	.....	.....	0.43	10.9
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	24.01	609.9	.....	.....	.....	.....	.....	4	10	.....	.....	6	7	3	.....	1	.....	.....	.....	1.78	45.2
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.24	742.7	30.01	762.2	70.3	21.3	72	3	8	3	4	1	5	2	5	.....	.....	.....	.....	1.66	42.1
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.88	759.0	30.03	762.7	73.2	22.9	58	2	5	9	6	3	1	3	2	.....	.....	.....	5	3.42	86.8
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.92	759.9	29.98	761.5	81.0	27.2	61	.....	1	.....	.....	2	.....	6	22	.....	.....	.....	1	0.11	2.9
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.92	759.9	30.02	762.6	79.2	26.2	47	1	10	1	.....	.....	5	8	6	.....	.....	.....	4	0.82	20.8
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.40	543.7	.....	.....	47.5	8.6	75	.....	.....	10	6	.....	.....	.....	.....	15	.....	.....	.....	2.58	65.4
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.00	736.6	30.02	762.5	79 7	26.5	48	9	1	1	.....	12	.....	3	5	.....	.....	.....	.....	2.97	75.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.25	641.4	.....	.....	54.3	12.4	79	3	.....	6	8	5	3	.....	6	.....	.....	.....	6	4.16	105.8
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.98	761.5	30.01	762 3	76.1	24.5	57	.....	2	5	11	1	3	3	6	.....	.....	.....	4	1.56	39.6
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.74	755.4	30.00	762.1	73.9	23.3	56	2	1	10	8	.....	1	5	4	.....	.....	.....	3	1.20	30.5
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.99	710.9	30.05	763.3	73.8	23.2	55	8	9	.....	1	.....	5	4	2	2	.....	.....	.....	1.82	46.2
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.95	760.6	30.00	762.1	71.8	22.1	57	2	3	7	5	5	6	2	1	.....	.....	.....	5	2.67	67.9
Saint Brieuc	N. 48 37	E. 2 48	0.20 p.m.	346	106	29.63	752.6	30.01	762 3	67.3	19.6	71	3	1	7	2	10	.....	.....	8	.....	.....	.....	4	1.64	41.7
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.85	758.1	30.02	762.6	72.3	22.4	55	5	5	5	8	3	2	2	1	.....	.....	.....	.....	1.56	39.9
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.36	746.0	30.10	764.5	79.0	26.1	53	1	13	3	2	.....	10	1	.....	1	.....	.....	5	1.48	37.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.85	758.2	30.02	762.4	74.5	23.6	60	3	2	4	13	2	.....	1	6	.....	.....	.....	.....	1.74	44.2
Sub-Series.																											
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.92	760.0	30.07	763.8	75.7	24.3	60	3	4	12	4	2	1	1	4	.....	.....	.....	5	2.47	62.8
GERMAN.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.60	726.4	30.00	762.1	70.3	21.3	52	1	7	8	6	1	1	.....	4	3	.....	.....	3	2.27	57.7
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.13	740.0	29.99	761.7	70.0	21.1	52	4	8	10	7	.....	.....	.....	1	1	.....	.....	5	3.26	82.8
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.80	756.8	29.96	761.0	70.2	21.2	49	1	5	10	6	8	1	.....	.....	.....	.....	.....	6	2.66	67.5
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.44	747.7	29.99	761.7	68.9	20.5	53	1	5	14	1	1	4	2	1	2	.....	.....	6	4.08	103.6
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.56	750.8	30.02	762.4	72.7	22.6	56	1	2	4	13	1	4	1	5	.....	.....	.....	6	3.53	89.6
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.25	742.9	29.98	761.5	69.8	21.0	58	5	4	4	10	5	2	.....	1	.....	.....	.....	6	2.68	68.0
Frankfort on M.	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.63	752.5	30.05	763.2	72.5	22.5	54	2	3	6	12	4	1	1	2	.....	.....	.....	5	2.78	70.5
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.62	726.9	29.98	761.5	71.6	22.0	67	.....	1	3	24	1	.....	.....	2	.....	.....	.....	4	5.84	148.3
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.84	757.8	29.95	760.6	66.6	19.2	72	1	6	4	9	4	3	2	2	.....	.....	.....	7	2.11	53.5
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.86	758.4	29.90	759.4	64.8	18.2	64	1	5	10	6	3	2	1	2	.....	.....	.....	7	3.43	87.1
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.55	750.5	29.98	761.5	70.0	21.1	67	.....	5	11	6	3	1	1	4	.....	.....	.....	7	5.56	141.2
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.83	757.6	29.90	759.5	65.3	18.5	74	3	10	9	5	4	.....	.....	.....	.....	.....	.....	6	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.22	716.8	30.10	764.4	72.1	22.3	50	.....	16	.....	1	.....	2	5	4	3	.....	.....	4	4.46	113.3
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.87	758.8	29.93	760.3	66.6	19.2	65	4	4	11	.....	2	2	4	4	.....	.....	.....	6	2.18	55.5
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.47	748.4	30.00	762.1	73.0	22.8	57	1	.....	5	10	10	1	2	1	1	.....	.....	7	2.14	54.4
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.12	739.6	30.00	761.9	71.8	22.1	62	2	6	5	8	3	2	.....	5	.....	.....	.....	5	2.20	57.5
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.89	759.3	29.93	760.3	65.5	18.6	69	3	.....	13	7	1	6	.....	1	.....	.....	.....	6	2.15	54.7
GREEK.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.51	749.6	29.88	759.0	86.7	30.4	39	.....	3	.....	6	4	.....	.....	18	.....	.....	.....	1	0.27	6.8
INDIAN.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.43	747.4	29.42	747.4	86.4	30.2	76	.....	2	16	13	.....	.....	.....	.....	.....	.....	.....	6	8.79	223.3
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.04	737.6	29.45	748.0	86.0	30.0	69	.....	1	2	17	5	4	2	.....	.....	.....	.....	10	11.28	286.5
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.64	752.8	29.61	752.2	81.4	27.4	84	.....	3	23	5	.....	.....	.....	.....	.....	.....	.....	9	34.76	882.9
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.83	706.8	29.60	751.9	77.4	25.2	73	.....	a1	20	9	.....	.....	.....	.....	.....	.....	.....	9	4.97	126.2
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.19	690 6	29.66	753.4	71.2	21.8	89	.....	.....	18	12	1	.....	.....	.....	.....	.....	.....	9	12.03	320.8
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.73	729.7	29.38	746.2	92.4	33.6	62	.....	2	1	1	2	3	13	1	8	.....	.....	4	11.53	292.8
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.57	725.7	29.40	746.8	88.1	31.2	73	.....	.....	2	.....	12	2	2	.....	13	.....	.....	4	9.56	242.8
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.91	734.3	29.41	747.0	87.4	30.8	75	3	6	3	1	.....	7	4	5	2	.....	.....	8	15.60	396.2
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.51	724.1	29.48	748.6	82.9	28.3	75	1	4	16	7	3	.....	.....	.....	.....	.....	.....	9	16.03	407.2
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.19	716.0	29.47	748.4	80.4	26.9	78	.....	7	7	9	....	2	1	3	2	.....	.....	10	18.34	465.8
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.13	739.8	29.45	748.0	86.3	30.2	79	10	5	2	1	2	4	.....	3	4	.....	.....	6	6.79	172.5
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.16	740.7	29.42	747.3	86.2	30.1	78	1	2	6	4	1	2	6	8	1	.....	.....	7	8.41	213.6
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.32	744 7	29.45	748.0	85.9	29.9	79	.....	.....	7	1	1	1	14	1	6	.....	.....	7	22.09	561.1
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.53	699.3	29.45	748.0	79.8	26.6	80	1	4	5	1	2	7	6	2	3	.....	.....	9	11.60	296.2
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.43	747.5	29.45	748.0	83.1	28.4	79	4	.....	7	7	9	.....	2	2	.....	.....	.....	8	10.09	256.3
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.50	749.4	29.47	748.5	83.0	28.3	85	1	.....	.....	11	9	7	2	1	.....	.....	.....	9	15.35	389.9
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.43	747.5	29.50	749.2	83.1	28.4	85	.....	.....	.....	1	3	1	2	2	22	.....	.....	7	12.74	323.6
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.53	749.9	29.56	750.8	80.9	27.2	88	.....	.....	.....	.....	8	15	7	1	.....	.....	.....	7	18.23	463.0
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.23	742.3	29.51	749.5	84.9	29.4	83	.....	.....	.....	4	19	1	2	.....	5	.....	.....	7	12.73	323.3
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.08	713.2	29.43	747.6	85.7	29.8	70	4	8	6	3	1	4	4	1	.....	.....	.....	8	10.37	263.4
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.18	741 3	29.55	750.6	85.7	29.8	60	.....	4	16	6	5	.....	.....	.....	.....	.....	.....	9	0.01	0.2
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.47	748.5	29.67	753.7	88.9	31.6	55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	6.19	157.2
ITALIAN.																											
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.53	750.0	29.92	760.0	79.2	26.2	51	.....	2	6	6	4	4	2	.....	7	.....	.....	4	7.85	199.3
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.48	748.8	29.98	761.4	81.3	27.4	45	1	.....	2	10	2	8	5	3	.....	.....	.....	5	3.54	89.9
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.87	758.6	29.97	761.2	79.0	26.1	50	1	.....	1	8	6	7	4	4	.....	.....	.....	7	1.17	29.7
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.09	738.9	29.96	760.9	80.4	26.9	46	1	4	3	6	2	6	9	.....	.....	.....	.....	4	0.94	23.8
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.80	757.0	29.99	761.7	77.5	25.3	63	2	1	.....	7	3	16	1	1	.....	.....	.....	2	0.22	5.6
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.95	760.7	30.00	762.0	77.5	25.3	59	3	4	1	4	2	5	12	.....	.....	.....	.....	2	0.82	20.8
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.73	755.1	29.97	761.3	82.9	28.3	34	1	5	9	5	4	2	2	3	.....	.....	.....	2	0.17	4.3
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.92	759.9	30.00	762 0	79.7	26.5	57	.....	7	10	7	3	.....	1	3	.....	.....	.....	2	0.06	1.5
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.82	757.3	29.98	761.6	84.4	29.1	40	2	.....	9	13	5	.....	1	1	.....	.....	.....	3	0.52	13.3
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.71	754.7	29.95	760.8	81.3	27.4	40	11	5	.....	3	1	.....	4	7	.....	.....	.....	1	0.75	19.1
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.10	739.0	29.95	760.7	82.2	27.9	66	.....	7	16	2	.....	4	2	.....	.....	.....	.....	2	0.16	4.2
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.92	760.0	29.97	761.1	81.7	27.6	59	4	.....	.....	.....	3	5	3	11	5	.....	.....	1	0	0
Sub-Series.																											
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22 31	566.8	.....	.....	51.1	10.6	72	1	1	14	3	4	.....	.....	8	.....	.....	.....	5	3.10	78.6
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.33	567.2	.....	.....	53.2	11.8	60	2	7	7	9	2	3	.....	1	.....	.....	.....	7	2.71	68.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.82	757.4	29.86	758.3	72.0	22.2	97	8	2	8	.....	.....	.....	6	1	6	.....	.....	5	1.64	41.6
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.81	757.3	29.84	757.9	71.2	21.8	87	4	1	1	.....	4	.....	1	.....	20	*a*2268	*a*3649	4	2.81	71.3
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	29.84	758 0	29.84	758.0	76.2	24.6	85	7	.....	.....	5	2	.....	.....	6	11	.....	.....	5	0.81	20.6
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	29.84	757.9	29.86	758.5	78.3	25.7	77	3	3	2	4	4	8	3	1	3	2552	4106	4	4.42	111.9
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.83	757.6	29.83	757.6	67.7	19.8	88	3	2	4	2	2	3	6	4	5	4795	7716	5	1.18	29.8
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.79	756.6	29.86	758 3	75.8	24.3	87	.....	.....	4	1	1	2	12	1	10	.....	.....	5	8.81	223.7
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.84	758.0	29.83	757.7	78.5	25.8	80	9	2	6	2	6	1	1	1	3	3163	5089	4	1.71	43.5
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.79	756.6	29.86	758.5	75.4	24.1	84	1	.....	1	4	2	5	5	1	12	2597	4178	5	0.63	15.9
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.89	759.2	29.87	758.6	77.6	25.3	85	.....	10	.....	1	1	1	3	1	15	1476	2375	3	7.10	180.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.71	754.6	29.85	758.1	77.2	25.1	76	11	1	.....	1	5	1	4	8	.....	*a*2034	*a*3273	5	1.35	34.2
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.88	758.8	29.86	758.6	77.1	25.1	90	1	4	9	1	.....	3	3	5	5	3971	6388	4	2.29	58.3
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.88	758.9	29.87	758.7	76.9	24.9	90	4	.....	8	.....	1	.....	4	1	13	3781	6085	4	10.52	267.1
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.77	756.1	29.86	758.4	68.1	20.1	91	2	2	8	4	8	2	1	2	2	2112	3400	4	3.91	99.3
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.68	754.0	29.85	758.2	76.8	24.9	87	2	.....	1	10	5	1	.....	2	9	2724	4384	4	5.32	135.1
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.76	755.9	29.84	758.0	58.0	14.4	98	4	1	.....	2	16	2	.....	2	4	4776	7686	8	2.45	61.8
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.83	757.8	29.85	758.2	75.1	23.9	84	5	.....	.....	4	4	3	.....	3	12	4536	7300	5	0.74	18.8
Nobirn	N. 38 23	E.141 11	9 25 p.m.	16	5	29.86	758.3	29.86	758.3	72.2	22.4	89	1	1	2	.....	17	3	2	.....	5	6539	10523	5	1.07	27.1
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.85	758.2	29.86	758.4	75.4	24.1	86	1	1	3	4	1	.....	11	8	2	.....	.....	6	2.54	64.4
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.83	757.6	29.85	758.1	79.0	26.1	74	3	1	13	1	.....	.....	4	3	6	5312	8548	4	0.34	8.7
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.86	758.4	29.84	758 0	76.5	24.7	80	4	.....	9	1	.....	1	1	8	7	4011	6455	3	0.51	13.0
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.72	754 8	29.88	758.8	75.8	24.3	87	.....	7	.....	3	.....	1	9	.....	11	.....	.....	3	6.60	167.6
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.76	755.9	29.80	757.0	62.9	17.2	92	.....	1	.....	2	11	2	7	2	6	7220	16618	6	1.85	47.1
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.76	755.8	29.82	757.3	67.5	19.7	85	3	3	1	.....	5	15	2	1	1	7240	11649	4	2.88	73.4
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.81	757.2	29.86	758.4	75.5	24.2	82	1	.....	.....	.....	17	5	7	1	.....	5729	9212	4	1.91	48.5
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.81	757.3	29.83	757.8	78.1	25.6	79	1	.....	.....	2	1	.....	.....	2	25	901	1449	3	0.46	11.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.92	760.0	30.06	763.5	71.0	21.7	68	.....	.....	1	1	1	7	18	2	1	4856	7805	6	2.22	56.4
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.68	601.5	29.82	757.4	60.6	15.9	.....	3	7	1	2	1	1	4	12	.....	.....	.....	9	9.03	229.3
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.33	618.1	29.85	758.2	61.2	16.2	88	4	11	2	9	.....	1	.....	4	.....	.....	.....	8	9.81	249.0
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.64	752.7	29.84	757.9	79.0	26.1	81	2	4	1	.....	.....	17	4	3	.....	.....	.....	8	8.88	225.5
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.08	586.3	30.01	762.2	56.3	13.5	83	2	7	.....	.....	.....	.....	.....	.....	22	.....	.....	7	3.92	99.3
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.97	761.2	29.99	761.7	68.7	20.4	.....	2	1	12	8	6	1	1	.....	.....	.....	.....	.....	2.02	51.2
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.89	759.2	29.97	761.2	64.6	18.1	.....	6	7	8	7	.....	.....	.....	3	.....	.....	.....	.....	3.58	90.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.92	760.0	29.94	760.5	63.1	17.3	.....	3	1	7	14	4	.....	1	1	.....	.....	.....	.....	2.10	53.4
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.95	760.8	29.97	761.3	66.7	19.3	.....	1	2	13	10	1	1	.....	.....	3	.....	.....	.....	2.17	55.0
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.91	759.6	29.97	761.3	69.1	20.6	.....	2	2	4	13	8	1	.....	.....	.....	.....	.....	5	3.20	81.4
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.70	754.4	29.80	757.0	58.8	14.9	71	1	4	12	2	8	1	.....	.....	3	.....	.....	7	12.78	324.7
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.68	753.8	29.77	756.1	57.4	14.1	72	12	.....	3	11	2	.....	2	.....	1	.....	.....	8	3.46	87.8
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.57	751.1	29.76	755.9	68.2	20.1	48	.....	1	1	9	12	2	.....	.....	6	.....	.....	6	3.72	94.4
Gjæsvær	N. 71 07	E. 25 22	1.41 p.m.	23	7	29.71	754.5	29.79	756.6	58.6	14.8	.....	1	1	2	4	1	4	2	3	13	.....	.....	6	2.73	69.3
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.07	763.8	30.12	765.1	73.4	23.0	66	.....	.....	.....	27	4	.....	.....	.....	.....	.....	.....	3	0	0
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.74	755.3	30.04	763.1	75.7	24.3	49	9	9	1	5	3	.....	3	1	.....	.....	.....	2	0	0
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.26	768.5	30.31	769.8	75.6	24.2	69	9	1	3	5	.....	1	.....	9	3	.....	.....	4	1.02	25.8
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.93	760.3	29.90	759 5	78.6	25.9	67	24	1	.....	.....	.....	.....	.....	2	1	.....	.....	5	0.19	4.8
San Salvador	S. 0 17	E. 14 53	1.00 p.m.	1834	559	28.11	714.0	29.88	759.0	74.1	23.4	62	.....	.....	3	6	.....	.....	.....	22	.....	.....	.....	4	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.39	645.0	29.96	761.0	64.0	17.8	49	7	3	0	3	.....	2	7	3	.....	.....	.....	2	0.73	18.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.89	759.3	30.05	763.3	77.4	25.2	64	.....	...	2	4	13	2	7	3	.....	.....	.....	3	0.53	13.4
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.00	762.0	30.06	763.5	79.0	26.1	59	3	20	.....	.....	.....	2	2	.....	4	1783	2869	5	2.14	54.3
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.16	689.8	29.98	761.6	75.0	23.9	56	3	1	2	9	4	3	3	6	.....	4754	7651	3	1.46	37.0
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.85	707.3	29.93	760.1	84.6	29.2	33	1	.....	4	4	4	6	3	5	7289	11731	2	0.30	7.6
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.15	740.4	30.03	762.8	74.5	23.6	61	2	1	1	8	1	1	1	9	7	5095	8200	6	1.31	33.8
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.94	760.5	29.96	761.0	77.8	25.4	85	.....	.....	.....	.....	2	11	18	.....	.....	.....	.....	5	16.51	398.0
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.81	757.3	29.81	757.3	80.2	26.8	87	4	1	.....	9	4	5	6	2	.....	3274	6063	8	9.09	230.9
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.97	761.2	30.03	762.7	79.0	26.1	55	.....	.....	13	5	3	.....	10	.....	.....	.....	.....	1	0	0
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.97	761.3	30.03	762 7	82.4	28.0	80	.....	.....	.....	.....	.....	2	11	9	.....	9	.....	4	5.86	148.9
SWEDISH.																										
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.65	753.1	29.74	755.4	67.6	19.8	59	2	2	4	8	7	4	2	1	1	.....	.....	5	2.38	60.5
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.65	753.1	29.75	755.6	67.6	19.8	63	1	6	1	10	9	1	2	.....	1	.....	.....	5	2.55	64.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.67	753.6	29.76	755.9	64.2	17.9	67	3	6	2	3	10	2	3	.....	2	.....	.....	7	4.10	104.2
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.58	751.4	29.80	756.8	66.7	19.3	74	7	2	7	7	4	1	1	.....	2	.....	.....	6	1.90	48.2
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.70	754.4	29.79	756.7	64.2	17.9	68	4	.....	22	3	.....	1	.....	1	.....	.....	.....	5	1.67	42.5
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.63	752.5	29.75	755.7	67.3	19.6	59	4	4	4	10	5	2	2	.....	.....	.....	.....	6	1.43	36.4
SWISS.																										
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.62	726.9	30.00	762.0	73.8	23.2	51*b*	12	1	.....	4	8	1	2	3	.....	.....	.....	4	3.83	97.3
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.90	759.4	76.5	24.7	55	10	1	.....	10	1	2	.....	7	.....	.....	.....	3	1.41	35.9
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	29.95	760.7	85.5	29.7	.....	.....	4	6	13	.....	2	.....	6	.....	.....	.....	1	1.10	28.
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.72	754.8	85.6	29.8	56	1	2	20	6	2	.....	.....	.....	.....	.....	.....	2	0	0
UNITED STATES.																										
New Engl'd states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.85	758.2	29.92	760.0	58.9	14.9	79	2	3	3	4	8	1	2	1	7	3014	4850	4	1.73	43.9
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.83	757.7	29.93	760.2	64.4	18.0	82	3	3	8	3	5	4	1	3	1	4406	7091	4	3.63	92.2
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.85	605.8	29.92	760.0	45.3	7.4	91	1	12	11	5	1	1	.....	.....	.....	.....	.....	3	6.30	160.0
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.82	757.4	29.94	760.5	67.9	19.9	74	5	6	11	4	1	1	2	1	.....	6969	11215	4	1.81	46.0
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.92	760.0	29.94	760.5	67.3	19.6	89	6	1	5	11	4	.....	1	3	.....	7442	11976	4	1.68	42.7
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.93	760.2	29.97	761.2	68.5	20.3	80	6	3	3	10	4	2	1	2	.....	4014	6460	6	3.82	97.0
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.85	758.2	29.95	760.7	65.9	18.8	83	8	2	2	6	3	1	.....	5	4	3859	6210	6	4.69	119.1
Mid. Atlan. states.																										
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.89	759.2	29.97	761.2	67.0	19.4	73	3	4	.....	.....	12	2	1	3	6	3250	5230	5	2.56	65.0
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.80	756.9	29.96	761.0	68.7	20.4	79	8	5	3	5	4	.....	1	4	1	4429	7228	4	2.57	65.3
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.85	758.2	29.96	761.0	69.2	20.7	83	6	2	3	6	4	2	2	6	.....	5224	8407	6	4.23	107.4
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.93	760.2	29.95	760.7	69.0	20.6	89	2	2	1	5	5	.....	3	3	.....	8344	13428	4	5.70	144.8
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.96	761.0	29.96	761.0	70.4	21.3	88	1	4	5	7	2	1	3	5	3	4171	6712	5	4.73	120.1
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.92	760.0	29.95	760.7	70.1	21.2	79	6	5	3	5	4	.....	3	5	.....	3508	5646	5	8.08	205.2
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.86	758.4	29.95	760.7	69.6	20.9	82	5	6	3	4	4	1	3	5	.....	3338	5372	6	10.63	270.0
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.95	760.7	29.94	760.5	73.2	22.9	88	3	2	2	4	6	3	8	2	1	5772	9289	5	4.62	117.3
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.95	760.7	29.95	760.7	73.5	23.1	89	1	1	.....	12	6	2	3	6	.....	7152	11510	4	4.37	111.0
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.30	744.2	29.95	760.7	69.5	20.8	90	4	4	4	5	2	1	4	7	.....	2322	3737	4	3.31	84.1
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.94	760.5	29.95	760.7	72.9	22.7	90	1	.....	1	3	10	3	2	3	8	3185	5126	6	4.23	107.4
S. Atlantic states.																										
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	29.98	761.5	29.96	761.0	74.4	23.6	89	1	4	1	11	1	3	8	2	.....	8488	13660	5	2.69	68.3
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	29.98	761.5	29.97	761.2	77.0	25.0	89	.....	3	8	8	3	.....	1	6	2	6218	10007	5	7.57	192.3
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	29.97	761.2	29.95	760.7	77.1	25.1	91	3	3	3	14	4	.....	1	3	.....	10673	17176	6	9.70	246.4
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.93	760.2	29.94	760.5	76.9	24.9	90	1	3	10	5	2	2	4	2	2	8120	13077	6	11.99	304.5
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	29.92	760.0	29.95	760.7	75.6	24.2	89	1	1	7	10	2	2	2	4	2	4320	6952	5	21.12	536.4
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.16	740.7	29.96	761.0	71.1	21.7	88	2	4	1	8	1	1	1	8	5	2794	4496	5	8.05	204.5

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for July, 1886.																		Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. STATES—Con.																										
S. At. States—Con.	° ′	° ′																								
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.94	760.5	29.96	761.0	77.2	25.1	84	4	1	5	10	3	.....	2	3	3	4899	7884	6	4.16	105.7
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.80	756.9	29.96	761.0	72.4	22.4	92	4	1	1	7	3	4	2	3	6	1988	3199	6	7.51	190.8
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.90	759.4	29.96	761.0	77.8	25.4	88	2	4	5	13	4	1	.....	2	.....	4462	7181	5	7.02	178.3
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.97	761.2	29.98	761.5	78.7	25.9	86	1	.....	.....	16	2	6	.....	.....	6	4483	7214	6	14.97	380.2
Florida penin'la.																										
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.00	762.0	29.98	761.5	79.2	26.2	84	1	2	4	11	3	3	5	1	1	7012	11284	8	11.72	297.7
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.00	762.0	29.97	761.2	83.7	28.7	80	.....	.....	1	3	10	7	9	1	.....	6454	10386	7	6.72	170.7
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.96	761.0	29.95	760.7	76.7	24.8	90	1	.....	2	2	15	3	1	3	4	3649	5872	6	10.21	259.3
East Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.84	732.5	29.96	761.0	69.6	20.9	90	4	4	9	1	1	2	8	2	.....	5271	8483	4	2.08	52.8
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.94	760.5	29.93	760.2	76.9	24.9	87	3	3	6	5	1	.....	3	3	7	4278	6885	6	8.85	224.8
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.95	760.7	29.95	760.7	75.1	23.9	91	6	5	5	6	.....	1	2	2	4	4299	6918	6	6.59	167.4
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.75	755.6	29.94	760.5	74.2	23.4	88	2	1	2	8	5	5	2	5	1	2997	4823	4	3.37	85.6
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.75	755.6	29.95	760.7	74.6	23.7	89	3	.....	3	3	5	6	3	3	5	3233	5203	4	1.58	40.1
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.92	760.0	29.94	760.5	77.2	25.1	89	1	1	6	9	7	1	3	2	1	3762	6054	4	14.35	110.5
West Gulf states.																										
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.74	755.4	29.94	760.5	74.7	23.7	90	2	.....	3	2	9	7	2	1	5	2843	4575	4	2.58	65.5
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.45	748.0	29.90	759.4	72.9	22.7	86	.....	.....	.....	1	.....	4	16	.....	10	2669	4295	3	2.63	66.8
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.64	752.8	29.91	759.7	72.9	22.7	90	2	4	1	4	2	5	5	3	5	2731	4395	5	2.97	75.4
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.94	760.5	29.94	760.5	80.7	27.1	82	2	.....	6	8	9	2	.....	3	1	5954	9582	5	1.20	30.5
Indianola	N. 28 32	W. 96 31	5.34 a.m.	26	8	29.91	759.7	29.90	759.4	79.1	26.2	88	2	1	3	10	8	4	2	.....	1	7794	12543	4	1.39	35.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.44	747.8	29.95	760.7	74.4	23.6	89	.....	.....	1	6	16	2	4	2	.....	5036	8105	3	3.31	84.1
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.15	740.4	29.90	759.4	73.4	23.0	92	3	2	.....	1	6	7	1	10	1	4898	7882	6	1.41	35.8
Rio Grande valley.																										
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.88	758.9	29.88	758.9	75.4	24.1	98	.....	.....	2	4	8	12	.....	3	2	4599	7401	3	4.88	123.9
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.73	755.1	29.88	758.9	75.7	24.3	88	2	.....	.....	.....	.....	4	15	6	4	4848	7802	3	1.55	39.4
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.20	741.7	29.97	761.2	68.9	20.5	90	6	3	6	6	.....	1	3	4	2	3131	5039	3	2.85	72.4
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.00	736.6	29.98	761.5	69.0	20.6	91	2	1	5	2	.....	2	4	11	4	2755	4434	5	6.25	158.7
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.64	752.8	29.94	760.5	73.9	23.3	84	1	7	.....	5	.....	5	1	8	4	3200	5150	4	5.52	140.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.40	746.7	29.94	760.5	70.3	21.3	86	3	6	5	5	2	4	3	1	2	3353	5396	2	1.90	48.3
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.40	746.7	29.95	760.7	69.8	21.0	88	6	6	1	2	6	.....	3	4	3	3484	5607	2	3.10	78.7
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.05	737.9	29.95	760.7	66.6	19.2	82	7	.....	1	2	3	4	8	4	2	2807	4517	3	1.53	38.9
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.18	741.2	29.95	760.7	66.5	19.2	80	6	3	2	3	4	1	3	5	4	2921	4701	4	2.27	57.7
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.32	744.7	29.95	760.7	67.6	19.8	84	3	3	.....	1	3	7	1	8	5	3739	6017	3	3.07	78.0
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.13	739.9	29.95	760.7	65.1	18.4	90	3	4	1	4	1	5	3	10	.....	3572	5748	4	4.17	105.9
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.08	738.6	29.96	761.0	65.4	18.6	86	2	9	2	1	4	1	1	4	7	2966	4770	4	5.56	141.2
Lower lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.31	744.5	29.95	760.7	62.1	16.7	86	2	3	3	16	.....	3	.....	.....	4	5445	8763	5	1.07	27.2
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.25	742.9	29.96	761.0	64.2	17.9	81	2	3	4	5	6	.....	4	6	1	5304	8536	5	1.34	34.0
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.59	751.6	29.94	760.5	63.8	17.7	78	3	1	9	5	6	4	.....	2	1	5538	8912	5	4.24	107.7
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	29.95	760.7	65.9	18.8	71	2	.....	3	6	10	2	5	3	.....	4609	7417	4	2.16	54.9
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.32	744.7	29.97	761.2	67.1	19.5	74	3	2	1	7	8	3	2	5	.....	6799	10942	4	2.26	57.4
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.24	742.7	29.95	760.7	65.5	18.6	78	5	.....	.....	2	7	12	2	3	.....	4608	7416	4	2.64	67.1
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.31	744.5	29.98	761.5	64.9	18.3	74	10	3	2	6	3	1	.....	4	2	4834	7779	3	0.59	15.0
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.28	743.7	29.96	761.0	65.1	18.4	83	6	4	2	5	2	.....	3	9	.....	6554	10547	4	2.45	62.2
Upper lake region.																										
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.31	744.5	29.95	760.7	59.8	15.4	86	2	5	12	4	2	1	.....	2	3	5046	8121	4	1.51	38.4
Escanaba	N. 45 45	W. 87 05	6.12 a.m.	608	185	29.31	744.5	29.95	760.7	61.1	16.2	76	11	3	2	6	4	.....	1	4	.....	5134	8262	4	1.92	48.8
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.33	745.0	29.97	761.2	62.3	16.8	87	4	2	1	3	5	3	4	3	5782	9305	2	0.90	22.9
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.30	744.2	29.94	760.5	61.8	16.6	80	3	5	5	7	2	1	2	.....	6	5427	8734	4	1.18	30.0
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.24	742.7	29.95	760.7	63.0	17.2	71	1	13	10	4	1	.....	2	.....	.....	5411	8708	5	1.33	33.8
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.32	744.7	29.98	761.5	62.4	16.9	85	5	4	1	6	3	2	.....	8	2	5132	8259	3	2.00	50.8
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.29	744.0	29.97	761.2	68.1	20.1	75	4	3	4	5	3	2	3	7	.....	5472	8806	3	1.53	38.9
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.25	742.9	29.97	761.2	65.3	18.5	75	7	2	5	6	2	.....	3	6	.....	6271	10092	4	0.94	23.9
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.24	742.7	29.96	761.0	62.6	17.0	77	.....	8	.....	3	2	3	1	8	6	4160	6695	3	1.48	37.6
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.09	738.9	29.95	760.7	65.4	18.6	84	3	5	1	.....	5	3	6	3	5	4117	6626	4	1.44	36.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.24	742.7	29.97	761.2	68.1	20.1	83	8	2	1	2	17	.....	.....	.....	1	4702	7567	3	1.77	45.0
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.34	745.2	29.96	761.0	67.5	19.7	75	6	2	3	4	1	3	4	8	.....	4592	7390	3	0.43	10.9
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.10	739.1	29.96	761.0	68.7	20.4	77	3	2	5	8	.....	4	.....	5	4	3325	5351	4	0.27	6.9
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.29	744.0	29.95	760.7	66.4	19.1	73	5	2	3	2	6	1	3	2	7	3218	5179	3	0.89	22.6
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.32	744 7	29.94	760.5	68.1	20.1	77	5	1	2	3	4	3	4	4	5	4192	6746	2	0.65	16.5
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.61	752.1	29.96	761.0	71.8	22.1	88	11	1	4	6	1	.....	1	2	5	5334	8584	3	1.01	25.7
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.32	744.7	29.96	761.0	69.5	20.8	75	4	1	1	2	1	6	4	4	8	3733	6008	3	0.05	1.3
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.38	746.2	29.95	760.7	73.6	23.1	79	3	2	4	6	1	4	2	7	2	5803	9339	2	0.55	14.0
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.11	739.4	29.95	760.7	69.9	21.1	79	10	.....	.....	.....	7	4	5	.....	5	3445	5544	4	0.55	14.0
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.84	732.5	29.96	761.0	68.8	20.4	73	3	3	2	1	8	2	.....	2	10	4012	6457	4	0.69	17.5
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.24	717 3	.....	.....	68.4	20.2	76	1	4	3	2	.....	10	1	1	9	5835	9390	5	2.44	62.0
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.57	725 7	29.89	759.2	64.5	18.1	86	.....	4	2	.....	7	11	2	3	2	6094	9807	4	1.60	40.6
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1228	374	28.65	727.7	29.92	760.0	66.5	19.2	84	2	3	1	4	7	6	4	3	1	5272	8484	4	0.69	17.5
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28 93	734.8	29.96	761.0	68.7	20.4	79	1	1	.....	.....	3	14	7	4	.....	5067	8154	3	2.19	55.6
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.31	693.7	29.87	758.7	66.3	19.1	76	1	3	2	12	7	1	1	2	2	8665	13945	5	2.04	51.8
Extreme N'thwest.																										
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.95	735.3	29.91	759.7	60.2	15.7	87	9	1	1	1	12	4	1	2	.....	6474	10419	4	5.40	137.2
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.08	738.6	29.93	760.2	61.1	16.2	91	8	6	.....	4	9	.....	.....	1	3	4921	7919	4	2.27	57.7
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.15	715 0	29.88	758.9	64.9	18.3	69	6	2	2	.....	2	5	8	6	.....	5234	8423	4	1.43	36.3
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.93	709.4	29.90	759.4	63.5	17.5	67	5	4	1	3	.....	2	4	11	1	6596	10615	5	0.56	14.2
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1490	453	28.36	720.3	29.90	759.4	61.9	16.6	83	1	7	3	1	7	5	3	3	1	7875	12673	3	1.29	32.8
Northern slope.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.16	689.9	29.91	759.7	62.8	17.1	62	3	2	10	3	.....	2	7	4	.....	7786	12530	4	0.47	11.9
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.22	691.4	29.93	760.2	63.0	17.2	61	.....	.....	5	2	.....	.....	2	4	18	2116	3405	2	0.90	22.9
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.85	682.0	29.87	758.7	62.7	17.1	70	3	1	1	3	2	15	2	1	3	4521	7276	4	1.59	40.4
Fort Maginnis b	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.63	651.0	29.94	760.5	60.2	15.7	56	3	5	1	.....	4	10	1	5	.....	4141	6664	3	0.34	8.6
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.38	670.0	29.90	759.4	56.9	13.8	66	1	1	23	1	.....	1	.....	...	4	3303	5316	2	0.82	20.8
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.90	657.8	29.91	759.7	58.5	14.7	62	.....	.....	3	28	.....	.....	.....	.....	.....	5245	8441	2	0.55	14.0
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2000	610	27.83	706.9	29.90	759.4	67.3	19.6	68	7	.....	6	1	.....	4	6	7	.....	6446	10374	2	0.94	23.9
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.46	646.7	29.89	759.2	63.2	17.3	70	3	.....	.....	.....	17	3	.....	.....	8	2523	4060	2	2.45	62.2
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.11	612.4	29.81	757.2	56.9	13 8	61	1	10	8	1	2	1	1	.....	7	5445	8763	3	0.71	18.0
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.10	688.3	29.88	758.9	65.7	18.7	81	3	.....	4	3	6	6	7	1	1	6356	10229	4	0.68	17.3
Middle slope.																										
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	18.13	460.5	29.90	759.4	38.6	3.7	73	3	4	12	1	2	2	1	4	2	8900	14323	2	3.30	83.8
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.52	724.4	29.91	759.7	67.2	19.6	88	3	.....	1	1	6	3	6	7	4	4686	7541	3	3.49	88.6
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.85	631.2	29.85	758.2	62.2	16.8	66	5	3	1	5	14	1	.....	2	.....	5120	8240	3	0.50	12.7
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.08	662.4	29.81	757.2	65.1	18.4	79	.....	2	7	2	2	.....	11	.....	7	5021	8080	3	4.66	118.4
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	27.42	696.5	29.89	759.2	67.3	19.6	86	5	2	1	1	5	3	1	.....	13	5358	8623	4	2.07	52.6
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.26	692.4	29.88	758.9	68.7	20.4	77	4	3	1	3	1	11	2	3	3	6917	4298	4	1.50	38.1
Southern slope.																										
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.73	729.7	29.90	759.4	76.3	24.6	68	9	1	.....	1	13	4	.....	2	1	6440	11132	3	0.84	21.3
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1744	532	28 18	715.8	29.94	760.5	75.4	24.1	73	2	1	1	.....	14	5	1	.....	7	4475	7202	4	1.48	37.6
Fort Davis	N. 30 38	W. 103 50	5.04 a.m.	4928	1502	25.23	640.8	29.83	757.7	68.3	20.2	63	3	3	2	14	.....	3	2	2	2	4209	6764	3	1.28	32.5
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	24.08	611.6	.....	.....	56.8	13.8	67	3	8	7	7	3	1	1	1	.....	3713	5975	2	4.71	119.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for July, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.	° ′	°																								
Southern plateau.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26.27	667.2	.....	.....	70.9	21.6	42	15	.....	.....	.....	.....	.....	11	4	1	3963	6378	0	0.14	3.6
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.41	594.6	29.83	757.7	60.9	16.1	61	1	.....	.....	.....	2	1	14	4	9	4629	7450	2	1.54	39.1
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.19	690.6	29.75	755.6	73.1	22.8	56	.....	.....	9	.....	1	3	6	2	10	3949	6355	3	0.10	2.5
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.10	637.5	29.82	757.4	61.9	16.6	64	.....	.....	.....	5	2	.....	8	15	1	4439	7144	4	1.90	48.3
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.30	642.6	29.84	757.9	68.9	20.5	40	1	12	6	1	1	6	.....	3	1	4647	7478	2	0.92	23.4
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.78	629.4	29.79	756.7	61.0	16.1	62	1	.....	2	12	3	2	1	1	9	4538	7303	3	0.61	15.5
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.63	752.6	29.74	755.4	78.6	25.9	69	.....	.....	1	3	6	3	7	4	7	4803	7728	2	Inap.	Inap.
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.26	667.0	29.84	757.9	71.8	22.1	68	3	3	4	.....	.....	1	5	3	12	2341	3767	4	1.62	41.1
Middle plateau.																										
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.63	600.2	.....	.....	49.9	9.9	72	1	2	3	10	10	1	2	2	.....	4967	7994	2	0.12	3.0
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.63	651.0	29.80	756.9	68.8	20.4	86	7	3	1	.....	1	11	3	4	1	4287	6899	2	Inap.	Inap.
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.78	604.0	.....	.....	67.9	19.9	39	3	1	7	17	1	.....	1	1	.....	8074	12994	1	1.35	34.3
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.63	651.0	29.81	757.2	56.8	13.8	41	.....	.....	.....	13	3	.....	9	6	.....	5141	8274	2	0.61	15.5
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.38	619.2	29.84	757.9	61.2	16.2	56	.....	.....	.....	1	10	16	1	.....	3	5828	9379	2	0.33	8.4
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.42	645.7	.....	.....	57.7	14.3	37	3	3	25	.....	.....	.....	.....	.....	.....	3768	2341	1	0.41	10.4
Northern plateau.																										
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.14	689.3	29.86	758.4	60.8	16.0	64	2	10	.....	.....	3	7	6	1	2	3292	6064	2	0.24	6.1
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.94	709.7	29.93	760.2	58.4	14.7	54	1	.....	7	6	2	.....	.....	.....	15	2884	4641	2	0.37	9.4
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.87	733.3	.....	.....	66.3	18.1	48	.....	.....	1	5	24	1	.....	.....	.....	4383	7054	3	0.02	0.5
N. Pac. coast reg'n																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.79	756.7	29.99	761.7	56.8	13.8	85	10	2	6	5	7	.....	.....	.....	1	6581	10591	8	3.33	84.6
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.97	761.2	30.01	762.2	51.7	10.9	96	4	.....	.....	1	12	1	3	9	1	2760	4142	4	1.15	29.2
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.98	761.5	30.00	762.0	50.5	10.3	95	.....	.....	1	2	25	.....	1	.....	2	3881	6246	4	0.46	11.7
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.89	759.2	29.99	761.7	55.0	12.8	92	.....	2	2	5	4	15	3	.....	.....	6496	10454	8	6.52	165.6
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	29.91	759.7	30.00	762.0	57.9	14.4	86	8	2	.....	.....	5	3	.....	.....	13	3889	6259	5	0.32	8.1
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.46	748.3	30.01	762.2	56.8	13.8	86	.....	1	1	.....	1	.....	.....	.....	28	1947	3133	5	2.20	55.9
Mid. Pac. coast reg																										
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.30	744.2	29.97	761.2	52.5	11.4	90	23	4	.....	1	1	1	.....	1	.....	16708	26888	3	0.46	11.7
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	337	103	29.52	749.8	29.86	758.4	70.1	21.2	49	4	3	3	.....	13	1	1	1	5	4289	6902	1	Inap.	Inap.
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.79	756.7	29.84	757.9	60.4	15.8	78	1	.....	.....	1	7	21	.....	1	.....	4850	7805	0	0	0
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.87	758.7	29.92	760.0	54.7	12.6	88	.....	.....	11	17	1	.....	.....	.....	2	9039	14547	5	0.23	5.8
S. Pac. coast reg'n.																										
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.53	750.0	29.86	758.4	59.4	15.2	86	.....	6	17	1	.....	.....	1	4	2	4035	6494	4	0.27	6.9
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.82	757.4	29.86	758.4	63.9	17.7	87	14	4	6	2	2	.....	.....	3	.....	4205	6767	8	Inap.	Inap.
Alaska stations.																										
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.94	760.5	30.04	763.0	53.7	12.1	85	.....	2	.....	17	.....	.....	.....	.....	12	5241	8434	7	3.27	83.1
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.06	760.3	.....	.....	52.7	11.5	80	1	4	.....	1	2	.....	.....	.....	23	.....	.....	7	.....	.....
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.90	759.4	29.81	757.2	76.9	24.9	93	.....	2	5	19	.....	1	.....	4	.....	.....	.....	.....	.....	.....
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.94	760.5	79.0	26.1	78	15	.....	.....	.....	.....	3	1	.....	12	2738	4406	5	2.10	53.3
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.02	762.5	29.95	760.7	78.6	25.9	85	.....	.....	.....	3	.....	9	19	.....	.....	.....	.....	5	14.42	366.3
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	77.5	25.3	81	3	1	.....	4	1	9	6	7	.....	.....	.....	.....	1.50	38.2
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	63.6	17.6	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	.....	14.11	358.4
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	.....	.....	29.82	757.4	.....	.....	.....	1	4	9	1	.....	1	1	.....	14	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR JULY, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° °															
N. 12.5 W. 22.5	29.88	758.9	80.1	26.7	6	1					3	21			3.7
12.5 27.5	29.93	760.2	80.2	26.8	7	1				2	7	12	2		3.3
12.5 32.5	29.95	760.7	79.7	26.5	1				1		13	16			4.2
12.5 37.5	29.97	761.2	79.2	26.2	1					1	19	10			4.3
12.5 42.5	29.99	761.7	79.2	26.2						1	26	4			4.3
12.5 47.5	29.99	761.7	79.4	26.3						4	26	1			4.1
12.5 52.5	29.97	761.2	80.1	26.7						16	15				4.1
17.5 22.5	29.93	760.2	78.9	26.1	3						8	20			3.7
17.5 27.5	29.96	761.0	78.6	25.9	5						3	21	1		4.0
17.5 32.5	30.01	762.2	78.7	25.9							9	22			4.5
17.5 37.5	30.04	763.0	78.6	25.9							23	8			4.7
17.5 42.5	30.05	763.3	78.9	26.1							29	2			4.7
17.5 47.5	30.05	763.3	79.6	26.4						2	29				4.4
17.5 52.5	30.03	762.7	80.6	27.0						16	15				4.0
17.5 57.5	29.98	761.5	82.6	28.1						9	22				3.6
22.5 22.5	30.02	762.5	77.5	25.3							7	24			3.9
22.5 27.5	30.05	763.3	77.8	25.4							8	13			4.2
22.5 32.5	30.09	764.3	77.9	25.5							18	13			4.5
22.5 37.5	30.12	765.0	78.5	25.8							22	8		1	4.8
22.5 42.5	30.14	765.5	78.9	26.1						2	28	1			4.7
22.5 47.5	30.14	765.5	79.9	26.6						6	25				4.2
22.5 52.5	30.11	764.8	80.9	27.2						16	15				4.2
22.5 57.5	30.08	764.0	81.9	27.7						11	19	1			4.0
22.5 62.5	30.06	763.5	82.0	27.8						9	22				3.9
22.5 67.5	30.04	763.0	82.4	28.0					1	16	11	2	1		3.6
22.5 72.5	30.01	762.2	83.6	28.7					3	18	9	1			3.9
27.5 22.5	30.11	764.8	76.3	24.6	2						2	27			4.0
27.5 27.5	30.15	765.8	77.0	25.0							8	13			4.1
27.5 32.5	30.19	766.8	77.3	25.2							16	15			4.3
27.5 37.5	30.22	767.6	78.1	25.6							20	8			4.3
27.5 42.5	30.23	767.8	78.9	26.1						3	21	1			4.0
27.5 47.5	30.21	767.3	79.6	26.4						9	19	2			3.7
27.5 52.5	30.20	767.1	80.1	26.7						10	13				3.9
27.5 57.5	30.18	766.6	80.1	26.7						18	8				3.9
27.5 62.5	30.14	765.5	80.2	26.8	2	1			1	19	3	2			3.9
27.5 67.5	30.10	764.5	80.7	27.1	2	1			7	16	2	1	1		4.0
27.5 72.5	30.05	763.3	80.9	27.2	2	1		1	9	14	5	1			3.8
27.5 77.5	29.99	761.7	83.5	28.6				5	14	11	3	1			3.8
32.5 12.5	30.08	764.0	74.3	23.5					15	7		16			4.1
32.5 17.5	30.14	765.5	73.3	22.9	12	2	1					19			3.8
32.5 22.5	30.20	767.1	74.5	23.6	10	2						23			3.7
32.5 27.5	30.26	768.6	75.6	24.2	4	1					3	15			3.6
32.5 32.5	30.29	769.4	76.5	24.7	7	1					8	11		2	3.4
32.5 37.5	30.31	769.9	77.3	25.2	4	3				3	11	4		3	3.1
32.5 42.5	30.32	770.1	77.8	25.4	2	1	1		2	7	13	2		2	5.2
32.5 47.5	30.32	770.1	77.7	25.4			1	4	2	7	7			1	3.8
32.5 52.5	30.29	769.4	78.0	25.6		1	1	1	6	14					3.7
32.5 57.5	30.22	767.6	79.5	26.4	1		1	2	12	13	1		1		3.9
32.5 62.5	30.15	765.8	77.5	25.3	1	1	1	7	13	5	2	1			4.7
32.5 67.5	30.09	764.3	78.3	25.7	2	1	3	8	12	5					4.6
32.5 72.5	30.03	762.7	79.7	26.5	3	2	2	8	13	3					3.8
32.5 77.5	29.97	761.2	79.1	26.2	1		2	14	9	3	1	1			3.3
37.5 12.5	30.11	764.8	72.1	22.3		1	6	11	5	3	3	1	1		4.1
37.5 17.5	30.18	766.6	70.6	21.4	10	10	1	1				9			3.8
37.5 22.5	30.26	768.6	72.3	22.4	14	6	3					8			3.4
37.5 27.5	30.32	770.1	73.0	23.1	12	8	1		1		1	8			3.0
37.5 32.5	30.34	770.6	74.3	23.5	6	8	4		3	2	4	4			3.4
37.5 37.5	30.33	770.4	75.0	23.9	4	7	2	4	5	6	2		1		3.4
37.5 42.5	30.31	769.9	74.7	23.7	3	4	6	5	6	3	1			3	3.6
37.5 47.5	30.28	769.1	73.9	23.3	2	3	4	10	9	1	1		1		3.9
37.5 52.5	30.22	767.6	73.8	23.2		1	8	10	8	2	1		1		4.3
37.5 57.5	30.14	765 5	73.6	23.1		3	4	16	6	1	1				4.2
37.5 62.5	30.07	763.8	73.2	22.9		3	1	16	6	1	1	1	1	1	4.4
37.5 67.5	30.03	762.7	73.6	23.1	2	1	4	12	7	2	1	2			4.3
37.5 72.5	29.98	761.5	74.5	23.6	2	2	2	12	7	1	1	3	1		3.2
42.5 12.5	30.08	764.0	71.1	21.7	3	3	3	10	5	4	1		2		4.5
42.5 17.5	30.15	765.8	68.4	20.2	5	6	8	2				9	1		4.3
42.5 22.5	30.21	767.3	69.6	20.9	4	16	2	3				5	1		4.5
42.5 27.5	30.23	767.8	70.6	21.4	3	16	5	3			1	3			4.3
42.5 32.5	30.25	768.3	71.4	21.9		13	13	3	1		1				3.8
42.5 37.5	30.22	767.6	71.0	21.7	2	6	11	10	2						3.9
42.5 42.5	30.19	766.8	71.1	21.7	1	6	7	16	1						4.1
42.5 47.5	30.14	765.5	67.5	19.7	1	5	4	19	1	1					4.0
42.5 52.5	30.08	764.0	66.1	18.9		3	7	19	1		1				4.6
42.5 57.5	30.04	763.0	66.5	19.2		3	7	16	3		2				4.8
42.5 62.5	29.99	761.7	66.3	19.1		2	9	12	5	1	1	1			4.3
42.5 67.5	29.96	761.0	64.8	18.2	1	4	7	10	7		1	1			4.3
47.5 12.5	30.02	762.5	65.6	18.7	1	4	3	12	6	2	1	1	1		4.2
47.5 17.5	30.05	763.3	64.4	18.0	4	3	11	6	1	2	1	3			3.2
47.5 22.5	30.05	763.3	65.0	18.3	1	8	12	4	2	1	1		2		4.5
47.5 27.5	30.08	764.0	65.2	18.4		11	13	5	1		1				4.3
47.5 32.5	30.08	764.0	65.7	18.7	2	8	14	4	1	2					4.8
47.5 37.5	30.06	763.5	65.8	18.8	1	7	12	7	2			1		1	4.9
47.5 42.5	30.01	762.2	61.8	16.6	4	6	11	9	1						4.8
47.5 47.5	29.94	760.5	56.9	13.8		3	8	16	3				1		4.8
52.5 12.5	29.89	759.2	60.6	15.9		2	8	17	1	1		1		1	4.5
52.5 17.5	29.87	758.7	59.5	15.3	2	6	13	6	4						4.5
52.5 22.5	29.88	758.9	60.0	15.6	3	6	9	10	1	1	1				4.7
52.5 27.5	29.92	760.0	59.6	15.3	4	6	12	5	3			1			4.9
52.5 32.5	29.95	760.7	58.7	14.8	7	4	11	6	1		2			1	5.0
52.5 37.5	29.93	760.2	57.7	14.3	1	10	9	6	1	2		2			5.1
52.5 42.5	29.89	759.2	55.3	12.9	2	5	7	8	3	2		2		2	4.8
52.5 47.5	29.84	757.9	47.8	8.8		5	3	9	4	4				6	4.7
57.5 12.5	29.78	756.4	55.1	12.8		4	4	8	4	2	1			8	4.2
57.5 17.5	29.78	756.4	54.6	12.6	2	6	7	7	1	2	2	2		2	4.8
57.5 22.5	29.77	756.1	51.5	10.8	3	7	4	7	1	1	1	3		4	5.1
57.5 27.5	29.80	756.9	52.4	11.3	2	7	7	3	4		1	3	1	3	5.1
57.5 32.5	29.84	757.9	51.1	10.6	5	6	5	6	1			1		7	5.2
57.5 37.5	29.85	758.2	50.1	10.1	4	3	6	4	3	1				10	4.7
					1	3	5	5	4	1				12	4.7

REVIEW.

INTERNATIONAL METEOROLOGY FOR JULY, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of July, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

Reports from European and Asiatic Russia have not been received, and data from the territory covered by these reports are necessarily omitted.

The area of lowest mean barometric pressure occupies the northern portion of British India, and the isobar of 29.40 (746.7), by which it is bounded on the south, is traced to the mouth of the Persian Gulf. Within this area barometric minima, ranging to 29.38 (746.2) at Lahore, are shown; to the southward of the thirtieth parallel the mean pressure increases to 29.67 (753.6) at Trichinopoly. Over the continent of Europe the mean pressure ranges below 29.80 (756.9) to the northward of the sixtieth parallel; mean reported barometric minimum, 29.74 (755.4), being shown at Haparanda, Sweden. Over the north Atlantic Ocean the mean pressure ranges below 29.80 (756.9) north of the fifty-fifth parallel. Over the North American continent two areas of low mean pressure, bounded by isobars of 29.80 (756.9), appear, one occupying the middle and southern plateau regions, with barometric minimum, 29.73 (755.1), at Yuma, Ariz., and the other extended over a limited area in the middle Saskatchewan Valley.

The area of highest mean pressure is located over the north Atlantic Ocean between N. 30° and 40° and W. 25° and 50°, with mean barometric maximum about 30.34 (770.6). An area of relatively high mean pressure, bounded by the isobar of 30.00 (762.0), extends along the Pacific coast of North America north of the forty-third parallel, with highest reported mean reading 30.04 (763.0), at Sitka, Alaska.

In the United States the mean pressure is greatest in the north Pacific coast region, and least in southern Arizona, the range being about 0.27 of an inch; to the eastward of the one hundredth meridian the mean pressure ranges between 29.90 (759.4) and 30.00 (762.0). In the British Possessions in North America the mean pressure is highest on the Pacific coast, and lowest in the Saskatchewan Valley and over the extreme northern portion of the Maritime Provinces, the range slightly exceeding 0.20 of an inch. Over the north Atlantic Ocean the barometric gradient is 0.54 of an inch between the Azores and the fifty-fifth parallel. Over the continent of Europe the mean pressure is highest over France and Spain, where it ranges from .29.90 (759.4) to 30.10 (764.5), and lowest over the north of Scotland, and in Scandinavia north of the sixtieth parallel, where it falls below 29.80 (756.9); over southern and southwestern Europe the mean pressure decreases eastward to below 29.90 (759.4) east of the thirtieth meridian. Over Asia the mean pressure ranges from 29.38 (746.2) in British India to 29.87 (758.7) in Kiu-Siu, Japan Islands.

As compared with the preceding month, June, 1886, there has been an increase of from .01 to .05 of an inch in mean pressure in New Mexico, Texas, Arizona, and the Gulf States, while in the northwestern portion of the United States there has been a decrease of from .04 to .09 of an inch. In Canada the mean pressure has changed but slightly in the Saint Lawrence Valley and the Lake region; in the Saskatchewan Valley it is about .10 lower than in June, while on the Pacific coast it remained about the same. Over the north Atlantic ocean there has been an increase in mean pressure of about .10 of an inch within the area of high pressure over the Azores, while the area of low pressure located in June over Iceland has moved southward about ten degrees and has extended east and west from coast to coast. Over Europe there has been a decrease in mean pressure of about .10 of an inch in Scandinavia, the British Isles, and Spain; in France there has been a slight increase in mean pressure; over central and southwestern Europe there has been an increase of from .05 to .20 of an inch, the greatest changes occurring in the vicinity of the Black Sea. Over British India and the Japanese Islands slight changes have occurred in the barometric means.

In the United States the mean pressure for the month was generally below the normal, although the departures were no where very great, the largest deficiencies occurring in the Gulf States and in Missouri and Tennessee. The largest departure occurred at Vicksburg, Miss., where the mean pressure for the month was .11 of an inch below the normal. The mean pressure was also below the normal along the Pacific coast, the largest departure, .08 of an inch, occurring at Portland, Oregon. The mean pressure averaged slightly in excess of the normal in Maine, the upper lake region, and in portions of the northern and middle slopes. In Canada the mean pressure was slightly below the normal in Quebec, the southern portion of Ontario, and the northern portion of New Brunswick, but was above the normal in the southern portions of New Brunswick and the northern portions of Ontario. In the British Isles the mean pressure averaged somewhat below the normal; over western Europe the departures below the normal ranged from .01 of an inch in Spain to .08 of an inch in Sweden; in Germany, Austro-Hungary, Italy, and Greece, the mean pressure was slightly above the normal. In British India the mean pressure averaged slightly below the normal. At Zi-Ka-Wei, China, it was .05 of an inch above the normal.

In the United States the mean temperature ranged from 4° to 9° above the normal in the northwest territories, and at all stations west of the Mississippi River, except in southern Texas and southern California, the mean temperature was above the normal. East of the Mississippi River the mean temperature was below the normal, the greatest deficiencies occurring in the southern districts, where the mean for the month was about 3° below the July normal. In Canada the average temperature was below the normal for the month in Ontario and Quebec, the deficiency amounting to 3°.1 at Saugeen and only 0°.9 at Father Point. In New Brunswick and Nova Scotia it was it was above the normal, the greatest excess occurring at Halifax, where it amounted to 2°.8. In the British Isles the average temperature, when compared with the normal for twenty years, shows a slight deficit, amounting to about 1°. Over the balance of Europe the departures from the normal temperature for nine years were slight, the greatest excess, 2°.7, being show in France, and the largest deficit, 1°.9, appearing in Norway. In British India the mean temperature was slightly below the normal.

The following table shows the mean pressure and mean temperature for July, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	July mean of 9 (1877–'85) years.	July, 1886.	Departure.	July mean of 9 (1877–'85) years.	July, 1886.	Departure.
				°	°	°
Austro-Hungary	29.92	29.94	+ 0.02	74.7	74.9	+ 0.2
British Isles	29.95	29.92	— 0.03	63.7	64.9	+ 1.2
Denmark	29.89	29.87	— 0.02	64.1	62.7	— 1.4
France	30.03	30.01	— 0.02	73.8	76.5	+ 2.7
Germany	29.96	29.98	+ 0.02	69.6	69.5	— 0.1
India	29.50	29.49	— 0.01	84.2	84.0	— 0.2
Italy	29.95	29.97	+ 0.02	81.6	80.4	— 1.2
Norway	29.82	29.78	— 0.04	62.6	60.7	— 1.9
Spain*	30.02	30.01	— 0.01	78.8	78.0	— 0.8
Sweden	29.85	29.77	— 0.08	64.7	66.2	+ 1.5

* Means for eight years only.

The accompanying table shows the deviations in pressure

and temperature at isolated stations during the month of July, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	July mean of 9 (1877-'85) years.	July, 1886.	Departure.	July mean of 9 (1877-'85) years.	July, 1886.	Departure.
				°	°	°
Athens, Greece	29.86	29.88	+ 0.02	87.2	86.7	— 0.5
Beirut, Turkey in Asia	29.73	29.72	— 0.01	85.9	85.6	— 0.3
Bridgetown, Barbadoes	.....	29.88	.....	.....	83.5	.....
Cape Town, Cape of Good Hope *	.....	.....	.....	62.0	62.4	+ 0.4
Fort Napier, Natal S. Africa	30.00	30.06	+ 0.06	68.7	64.4	— 4.3
Freetown, Sierra Leone	29.87	29.82	— 0.05	83.0	81.0	— 2.0
Funchal, Madeira Islands	30.13	30.12	— 0.01	72.6	73.4	+ 0.8
Gibraltar	30.01	30.02	+ 0.01	77.3	76.9	— 0.4
Havana, Cuba, W. I.*	30.01	29.96	— 0.05	80.7	77.8	— 2.9
Malta, Mediterranean Sea	29.94	29.92	— 0.02	82.8	80.3	— 2.5
Melbourne, New South Wales	30.14	30.18	+ 0.04	47.2	46.7	— 0.5
Mauritius, Indian Ocean	30.13	30.06	— 0.07	71.7	71.0	— 0.7
Mexico, Mexico	.....	30.01	.....	.....	56.3	.....
Nassau, Bahamas, W. I.	30.01	29.99	— 0.02	84.7	86.2	+ 1.5
Paramaribo, D. Guiana, S. A	29.95	29.95	normal.	80.4	78.6	— 1.8
Ponta Delgada, Azores	30.27	30.31	+ 0.04	74.6	75.6	+ 1.0
Swanbister, Orkneys	29.86	29.71	— 0.15	56.6	54.5	— 2.1
San Juan de Puerto Rico, W. I.	29.99	30.03	+ 0.04	82.0	82.4	— 0.4
Tokei, Japan	.....	29.83	.....	.....	78.1	.....
Zi-Ka-Wei, China	29.69	29.74	+ 0.05	77.4	79.0	+ 1.6

* Means for eight years only.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	92.4	33.6	Melbourne, Australia	43.6	6.4
Athens, Greece	86.7	30.4	Fort Bridger, Wyoming	49.9	9.9
Avignon, France	86.4	30.2	Port Angeles, Washington Ter.	50.5	10.3
Nassau, Bahamas	86.2	30.1	Sitka, Alaska	53.7	12.1
Beirut, Turkey in Asia	85.6	29.8	Swanbister, Orkneys	54.5	12.5

In the United States the prevailing winds were southerly in the Gulf States and Florida; in the south Atlantic states they were from the southwest; in all other districts they were variable. In Canada the prevailing winds were westerly. Over the north Atlantic ocean the wind-directions were anticyclonic to the southward of the fortieth parallel, as influenced by the area of mean high pressure which extended westward from the Azores, and cyclonic about the area of low mean pressure which occupied the ocean north of the fifty-fifth parallel. Over the British Isles south to west winds prevailed. Over the continent of Europe west to north winds prevailed, except in Spain, Italy, and Scandinavia, where they were variable. In British India westerly winds prevailed over the western portion, while to the eastward of the eightieth meridian they were mostly from south to east. Over the Japanese Islands the winds were variable. In the United States the rainfall was largely deficient in the central districts, while along the coast of the south Atlantic states the monthly rainfall was unusually large. In Canada the rainfall was, in general, much below the average. In the British Isles the rainfall was large but irregularly distributed.

In the United States the most striking meteorological feature of the month was the disastrous droughts produced in some of the central states by the large deficiency of rainfall in those districts. In Canada a drough prevailed, except in northeastern Ontario, Quebec, and a part of Nova Scotia. Over the north Atlantic ocean the weather was seasonable. In the British Isles the month opened fair and warm, but changed to showery and towards the end of the month heavy rain prevailed.

TRACKS OF AREAS OF LOW PRESSURE FOR JULY, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during July, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

A general review of the weather conditions which prevailed over the northern hemisphere during the month, as indicated by the storm-track chart, and daily charts containing the data of simultaneous observations, shows that there was an unusual prevalence of barometric depressions in high latitudes over the North American continent and the north Atlantic ocean; and that while these depressions were, as a rule, of slight energy, they occasioned unsettled meteorological conditions in marked contrast to the period of settled weather and drought which prevailed in the central districts of the United States, and the almost total absence of general storms in southern Europe and off the east coast of Asia.

The paths of the centres of thirty areas of low pressure are shown, of which thirteen are traced over the North American continent; seven over the north Atlantic ocean; seven over Europe, and three off the eastern coast of Asia. The average number of areas of low pressure traced over the North American continent for the month of July during the last thirteen years is 9.0, or four less than the number traced for July, 1886.

Of the low areas traced over the North American continent, two advanced northward over the Gulf of Mexico; five passed eastward over the Saint Lawrence Valley to the ocean; one developed in the Rocky Mountains and moved southward to Texas; one developed in Kansas and passed northward into an area of low pressure extending from Utah to Manitoba, which remained nearly stationary from the 3d to the 6th, and then apparently dissipated. The depressions developed slight energy, and are described in detail in the MONTHLY WEATHER REVIEW for July, 1886, under the heading "Areas of low pressure."

Of the seven depressions traced over the north Atlantic Ocean, five were continuations of storms which first appeared over the North American continent; one developed in the vicinity of Nova Scotia, and one advanced over the ocean from the Labrador coast. The general course of direction of the depressions was easterly to the thirtieth meridian, and northeast after passing that longitude. Six of the depressions are traced from coast to coast, the tracks in each instance being located to the northward of the fiftieth parallel. The depression which failed to traverse the ocean was of tropical origin. To the eastward of the twentieth meridian the rate of progress of storms was slow, and in instances, the depressions pursued irregular courses. The storms, as a rule, possessed considerable strength, and while the depressions did not exhibit unusually low pressures, the barometric gradients were sufficiently steep to cause disturbances of pronounced energy. The more important storms which appeared over the north Atlantic Ocean during the month are described in the MONTHLY WEATHER REVIEW for July, 1886, under the heading "North Atlantic storms."

Of the seven depressions traced over Europe, two were continuations of storms which first traversed the north Attantic Ocean; three advanced from the ocean into northern Scandinavia; one apparently moved northwest into the Gulf of Bothnia, and one is traced from the Adriatic to the Black Sea. Numerous slight depressions, not charted, appeared over central and southwestern Europe which were, in a majority of instances, apparently subsidiary to the well-defined storm-areas which are traced off the coast of Europe north of the fiftieth parallel. The course of direction of the depressions was greatly diversified, and their rate of progress was unusually slow. Number xxi was central on the 1st in Austro-Hungary, whence it passed south of east into the Black Sea, with central pressure ranging below 29.80 (756.9). Number xxii was central on the 1st over the northern extremity of the Gulf of Bothnia, with barometric pressure, 29.83 (757.7), at Haparanda, Sweden; by the 4th the centre of disturbance had moved southward into the Baltic Sea, after which it circled eastward and disappeared beyond the region of observation. Number xxiii appeared on the 5th on the coast of Norway, in about N.

68°, with pressure below 29.70 (754.4), whence it apparently moved northeast. From the 6th to the 10th, inclusive, the barometer continued low over northern Scandinavia and Finland, readings ranging to about 29.30 (744.2) being shown over the northern extremity of Norway during the 7th and 8th. During this period the barometer, which had continued high over the British Isles and southwestern Europe until the 6th, fell gradually over central and western Europe, occasioning generally unsettled weather, which prevailed west of the twentieth meridian, east, during the balance of the month. During the second and third decades the depressions of pronounced strength, which appeared over, and in the vicinity of, the British Isles, contributed to the generally stormy weather and continued low barometer which prevailed over middle-western and northwestern Europe.

Of the three depressions traced off the eastern coast of Asia two appeared in the vicinity of the Japanese Islands, and one is given a probable course from the Philippine Islands into the China Sea. The depressions were, in each instance, unimportant, and exhibited barometric readings but slightly below the monthly mean pressure for the regions through which they are traced.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

On and after July 1, 1884, all stations in the United States series will be grouped by states and territories under each district, in the following order:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Middle Atlantic states: New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia.

South Atlantic states: North Carolina, South Carolina, Georgia, Florida.

Eastern Gulf states: Georgia, Florida, Alabama, Mississippi, Louisiana.

Western Gulf states: Louisiana, Arkansas, Indian Territory, Texas.

Rio Grande valley: Texas.

Ohio valley and Tennessee: Tennessee, Kentucky, Illinois, Indiana, Ohio, West Virginia, Pennsylvania.

Lower lakes: New York, Pennsylvania, Ohio, Michigan.

Upper lakes: Michigan, Indiana, Illinois, Wisconsin, Minnesota.

Upper Mississippi valley: Minnesota, Wisconsin, Iowa, Illinois, Missouri.

Missouri valley: Missouri, Kansas, Nebraska, Iowa, Dakota.

Extreme northwest: Minnesota, Dakota.

Northern slope: Montana, Dakota, Wyoming, Nebraska.

Middle slope: Nebraska, Colorado, Kansas, Indian Territory, Texas, New Mexico.

Southern slope: Indian Territory, Texas, New Mexico.

Southern plateau: New Mexico, Arizona, California, Nevada.

Middle plateau: California, Nevada, Utah, Colorado, Wyoming.

Northern plateau: Wyoming, Montana, Idaho, Oregon, Washington.

North Pacific coast: Washington, Oregon.

Middle Pacific coast: California.

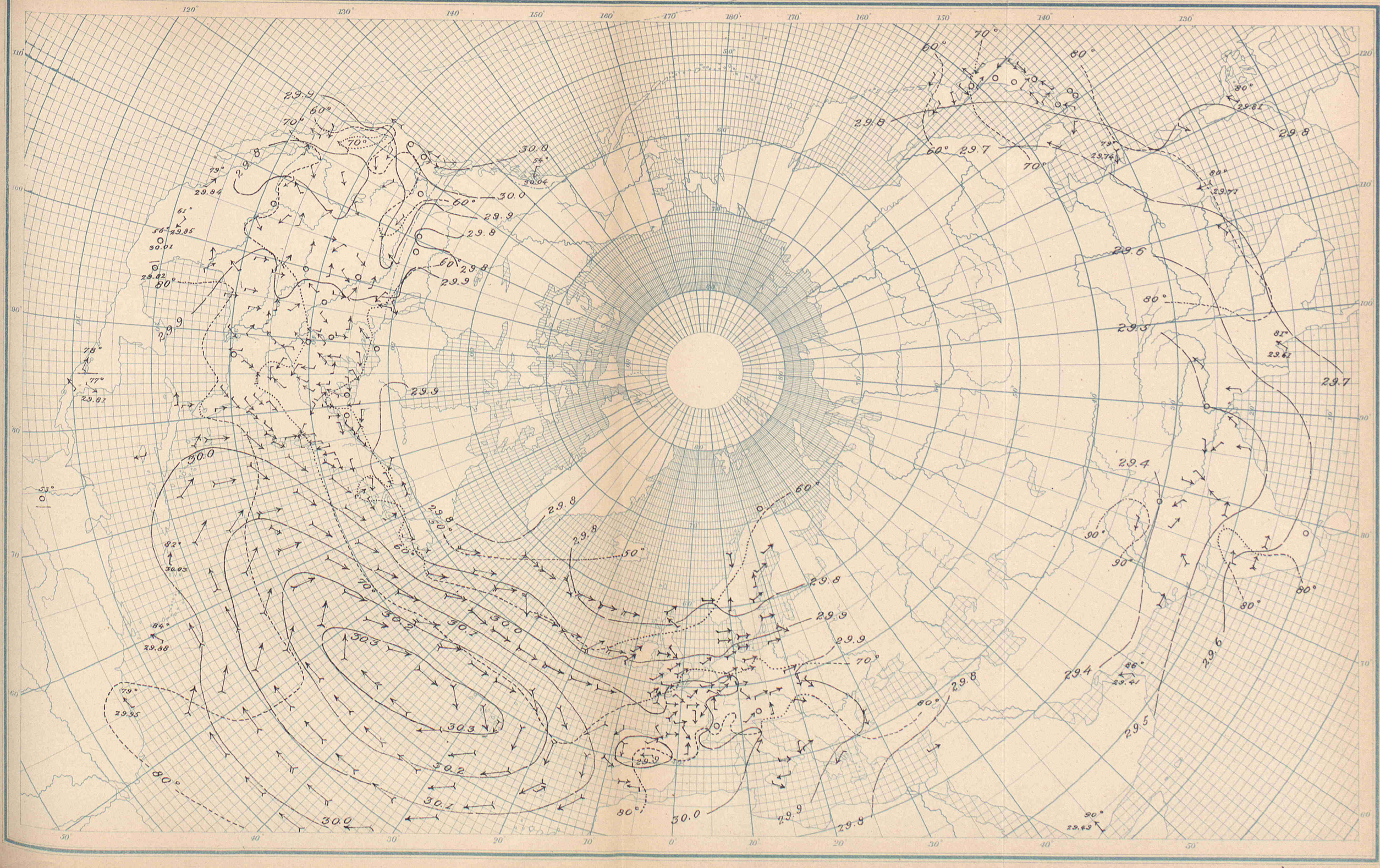
South Pacific coast: California.

Ocean Squares.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

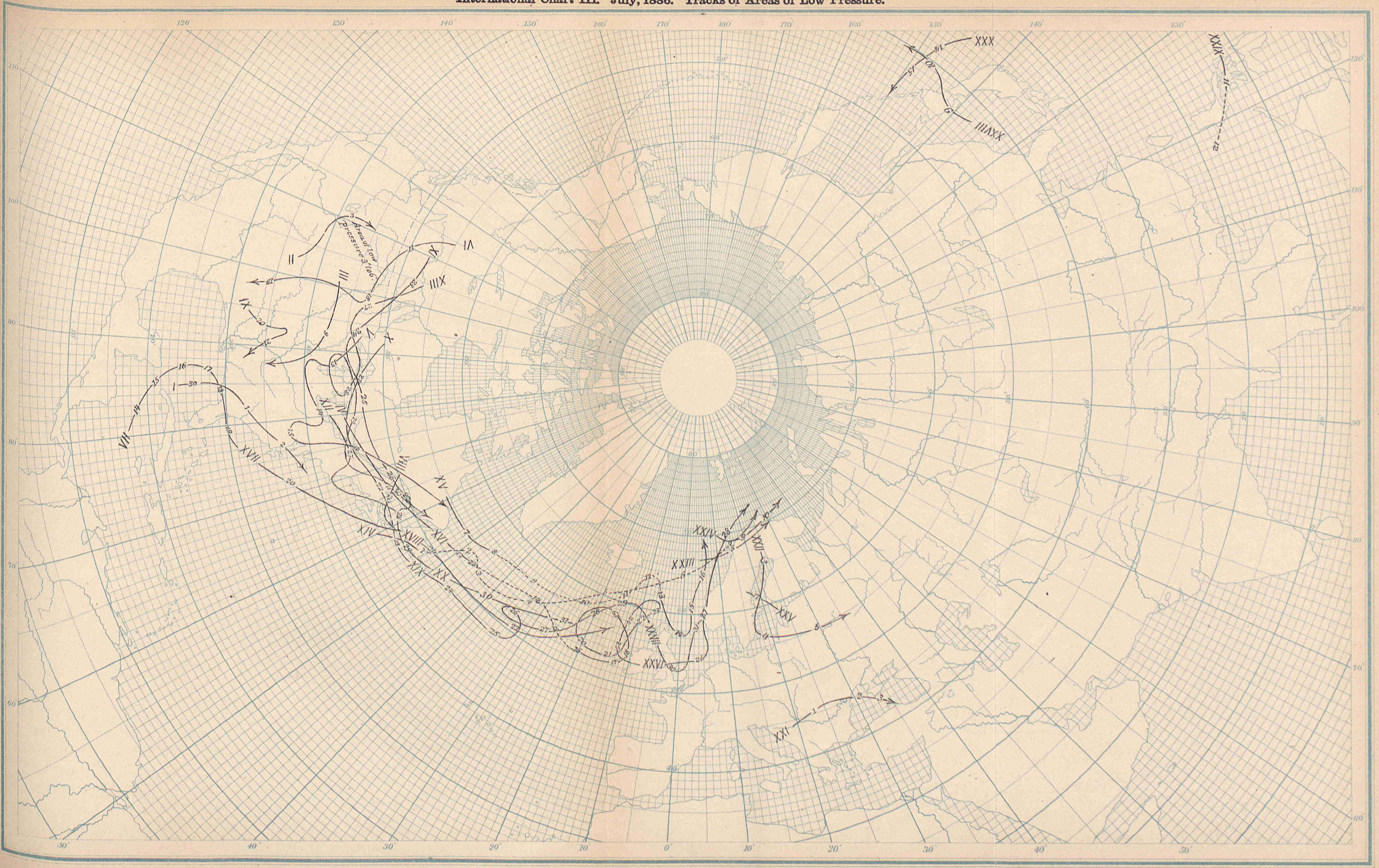
A. W. GREELY,
Chief Signal Officer.

International Chart II. July, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. July, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July, 1886—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—Continued.	
Edith Godden	Capt. John H. Bennett.
Elstow	T. Robertson.
Span. Hugo	A. de Mugica.
Br. Horden	C. A. Topp.
Joseph Ferens	J. J. Mehegan.
Am. Lorenzo D. Baker	W. F. Wiley.
Br. Madrid	M. Garson.
Matthew Bedlington	Thos. Kirby.
Span. Navarro	S. de Aldecocea.
Br. Prydain	Moses Parry.
Saint Ronans	H. Campbell.
Sulina	Thos. Potter.
Vindolana	Thos. Harrison.
N. Y. HERALD WEATHER SERVICE.	
Br. s. s. Adriatic	H. Parsell
Ailsa	J. W. Sanson.
Advance	J. R. Beers.
Alaska	G. S. Murray.
Alene	— Seiders.
Aller	F. Hamelmann.
Alpes	Anasagasti.
Alvena	O. Hughes.
Aurania	W. H. P. Hains
Alvo	D. Williams.
Anchoria	J. J. Small.
Arizona	Sam. Brooks.
Baltic	G. Burton.
Belg. Belgenland	W. A. Beynon.
Br. Buffalo	W. H. Malet.
Celtic	Benj. Gleadell.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Berlin	F. S. Land.
City of Chester	H. Condron.
City of Chicago	Fred. Watkins.
Am. City of Puebla	John Deakin.
Br. City of Richmond	Authur Lewis.
Am. Colon	Chas. Lima.
Br. Craighill	W. H. Bennett.
Ger. Eider	H. Helmers.
Br. Etruria	T. Cook.
Ger. Ems	W. Willigerod.
Am. Eureka	R. B. Quick.
Br. Gallia	M. Murphy.
Ger. Gellert	W. Kuhlewein.
Fr. La Bourgogne	Frangued.
Am. Newport	W. G. Shackford.
Belg Noordland	N. E. Nickils.
Br. Richmond Hill	A. Hyde.
Belg. Rhynland	J. C. Jamison.
Dtch. Schiedam	G. Bakker.
Br. Servia	A. McKay.
State of Nebraska	A. G. Brass.
State of Pennsylvania	A. J. A. Mann.
Ger. Trave	W. Willigerod.
Br. Umbria	T. Cook.
Belg. Waesland	J. Ueberweg.
Dtch. W. A. Scholten	G. J. Vis.
Belg. Westernland	Com. W. G. Randle.
Br. Wisconsin	Capt. E. Bentley.
SAILING VESSELS.	
Am. bg. Abbie Clifford	D. W. Storer.
Br. bk. Abyssinian	John Hughes.
Br. bg. Achsah	A. M. Shaw.
Br. bk. Ada Peard	N. Hocken.
It. Agostino Bombo	V. Basso.
Angelica Accame	Vincenzo Niggi.
Am. bg. Arcot	J. W. Cates.
Ger. bk. Arnold von Bippen	T. Möller.
Am. schr. Bertram L. Townsend	S. L. Tunnell.
bgt. Boston Marine	H. V. Porter.
Br. sp. British Isles	G. Southcott.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Ger. sp. Carl	Capt. — Hashagen.
Br. Cabul	John Rome.
Caesarea	J. C. Barreto.
Am. bk. Chas. Loring	G. J. Thostrup.
Chas. R. Lewis	A. Montgomery.
Carrie Perrington	M. Knoebel.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
Br. bk. Childwall	T. O. Watson.
Br. sp. City Camp	D. McLeod.
Ger. Columbus	B. Sauermilch.
bk. Cornelius	H. Windhorst.
Br. sp. E. J. Spicer	Dewis Spicer.
Nor. bk. Elieser	P. Halvorsen.
Br. Eliza Brass	H. H. Hollis.
Nor. Ellida	D. C. Hoff.
Am. bg. Ernestine	E. R. Norton.
bk. Ethel	W. Thompson.
Br. Exile	G. J Pearce.
Fluorine	Wm. Munson.
It. Fratelli Lauriu	Lodovico Laurin.
Br. Forest	C. F. Cunningham.
Ger. sp. Georg	G. A. Scholtz.
Am. bg. Georgietta	Ch. Offl. H. R. Combs.
Ger. bk. Godeffroy	Capt. C. H. Sinnig.
Nor. bk. Grundleven	O. G. Ellingsen.
Haavund	C. Ullenass.
Am. bk. Harriet S. Jackson	W. T Bacon.
Harvard	Samuel Pray.
Br. bk Harvester	W. Cassidy.
Ger. sp. Hedwig	Th. Minssen.
Am. Henry Villard	F. B. Perkins.
Independence	Saml. Pavett.
Br. bk. Iodine	Adam Smith.
It. Ismaele	C. Fiodo.
Am. bg. Jane Adeline	G. W. Gates.
schr. Jennie A. Stubbs	Chas. M. Haskell.
Swed. bk. John Fought	O. Carlsson.
Am. bg. John Wesley	J. H. Hines.
bkt. Josephine	Chas. Brown.
Ger. sp. J. W. Gildemeister	A. Lehman.
J. W. Wendt	L. Lass.
Br. bg. Kenilworth	H. Doig.
Br. bk. Kryolith	W. C. Stephen.
Nor. Komandor Svend Foyn	Johan Bryde.
Am. bg. L. & W. Armstrong	A. Alexander.
Ger. bk. Leocadia	John Stohff.
Br. bg. Lilian	H. F. Schive.
Nor. bk. Lovspring	G. Thomsen.
Br. sp. Mabel Taylor	C. E. Durkee.
bk. Madura	O. Bernier.
Am. schr. Maggie Abbott	D. C. McIntosh.
bg. Mary Fink	D. B. Darrah.
schr. Mary Jane Elizabeth	C. E. Bohannon.
Br. bk. Melmerby	Henry Grose.
Am. Mohican	B. F. Berry.
Am. schr. Nelson Bartlett	S. Watts.
Ger. sp. Otto	W. Langsen.
Palme	W. Balds.
Am. schr. Pearl	— Anderson.
Nor. bk. Premier	G. Guthormsen.
Am. Ralph M. Hayward	J. Baxter.
Dan. Rialto	N. P. Hansen.
Ger. Richard	A. von Seggern.
Am. sp. Ringleader	J. C. Entwistle.
Br. bkt. River Ganges	T. Naile.
Rosebud	John Collie.
Am. bk. Sarah	L. R. Hale.
Br. sp. Sapphire	G. W. Murray.
Ger. Shakspere	Paul Muller.
Am. sp. St. John	O. H. Fales.
Br. Stephen D. Horton	J. Spicer.
Am. bk. Templer	R. Roberts.
Br. Tuck Sing	Geo N. Ryder.
Ger. sp. Union	H Fokken.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Ger. bk. Victoria	Capt. B. F. Rehm.
It. Vincenzo Accame	N. V. Lavagna.
Ger. Western Chief	Fr. Sander.
Br. sp. Winnifred	R. MacDonald.
Am. schr. W. H. Fredson	A. J. Biddle.
Nor. bk. Ymer	J. E. Andersen.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Barclay.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Constellation	
U. S. S. Galena	C. W. Chester.
U. S. S. Hartford	J. S. A. Gillis.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	Horace Elmer.
U. S. S. Juniatta	G. T. Davis.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey.
U. S. S. Pinta	
U. S. S. Portsmouth	C. V. Gridley.
U. S. S. Quinnebaug	Geo. Coffin.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	C. H. Davis.
U. S. S. Shenandoah	B. Wilson.
U. S. S. Swatara	
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Vandalia	R. Chandler.
U. S. S. Yantic	F. M. Green.
BRITISH NAVAL.	
H. M. S. Alexandra	T. Fellowes, C. B.
H. M. S. Audacious	R. H. Harris.
H. M. S. Active	Fitz-Roy, C. B.
H. M. S. Briton	R. M. Lloyd.
H. M. S. Bacchante	A. U. Moore.
H. M. S. Constance	Dueres.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dreadnought	F. G. D. Bedford.
H. M. S Diamond	F. S. Clayton.
H. M. S. Flying Fish	J. P. Maclear.
H. M. S. Himalaya	J. E. Stokes.
H. M. S. Heroine	F. R. Blackburn.
H. M. S. Hyacinth	Brackenbury.
H. M. S. Myrmidon	R. F. Hoskyn
H. M. S. Midge	H. J. Robilliard.
H. M. S. Mariner	J. Durnford.
H. M. S. Miranda	E. Rooke.
H. M. S. Nelson	A. P. Lake.
H. M. S. Osprey	C. E. Gissing.
H. M. S Penguin	
H. M. S. Rambler	W. U. Moore.
H. M. S. Rifleman	
H. M. S. Royalist	G. W. Hand.
H. M. S. Sylvia	L. S. Dawson.
H. M. S. Woodlark	E. W. Burt.
PORTUGUESE NAVAL.	
H. P. M. S. Tamega	
H. P. M. S. Yaire	
SWEDISH NAVAL.	
H. S. M. S. Vanadis	
H. S. M. S. Saga	A. Melster.
H. S. M. S. Robertsford	G. E. Sandborg.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of July. 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	[Todd, C. M. G.
Hobart Town, Tasmania	L. C. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Freetown, Sierra Leone	J. W. Smith.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. E. Aranha.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CAPE COLONY.	
Cape Town, The Castle	R. Gardner Warton.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Pakhoi	
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	W. Brennan.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overlocrer Lauridsen.
Vestervig	Loerer Oesterbol.
Agen, Normal School	M. Labrone, Director.

Stations.	Observers.
FRENCH.	
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Tallieu, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuce	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours	M. de Tastes.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.

Stations.	Observers.
ITALIAN—*Continued.*	
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	S. Tanad.
Gifu	R. Iguchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	
Sapporo	S. Kimura.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	F. Weidner.
Mexico	The Staff.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjaesvaer	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
SCOTCH.	
Leith	J. Boham & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Grinche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Bogota	Joaquin Gomez Otero.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF AUGUST, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
OCTOBER, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August, 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Canadian	J. Kerr.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Manitoban	W. Ambry.
Nova Scotian	R. H. Hughes.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Ocean Prince	W. J. Milburn.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
British Crown	Archibald Smith.
British Queen	R. Wills.
Circassia	A. Campbell.
City of Rome	R. D. Munroe.
Devonia	Hugh Young.
Dorian	J. McKeague.
Furnessia	J. Hedderwick.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Critic	W. R. Lord.
Monte Rosa	C. Thomas.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Sansom.
Span. Alpes	T. Anasagasti.
Br. Alvena	O. Hughes.
Alvo	David Williams.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Jerome	Benj. Crimp.
BORDEAUX STEAM NAVIGATION Co.	
Chateau Yquem	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Louisiana	E. V. Gager.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
Umbria	W. McMickan.
EDWARD CARE'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polynesia	A. Kuhn.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Boston City	W. T. Sherborne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. La Bourgogne	Franguel.
La Bretagne	M. de Jousselin.
La Champagne	E. Traub.
La Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
Saxmundham	Capt. T. M. Milne.
Warwick	W. Janes.
GUION LINE.	
Br. s. s. Alaska	G. O. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Recssing.
Bohemia	R. Kurlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	H. Behrends.

Name of vessel.	Captain.
HAMAURG-AMERICAN LINE—Con.	
Ger. s. s. Rhaetia	Capt. H. Vogelgesang.
Rugia	A. Albers.
Suevia	C. Ludwig.
Wieland	C. Hebich.
Westphalia	Drœscher.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chester	A. Lewis.
City of Chicago	Fred. Watkins.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	Fred Graham.
Dalton	J. Russell.
Olbers	Jas Clark.
Mozart	T. Sawyer.
LEYLAND LINE.	
Br. s. s. Bavarian	R. Leask.
Bulgarian	E. Parry.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
San Marcos	A. C. Burrows.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Celtic Monarch	J. Hilditch.
Lydian Monarch	T. C. Huggett.
Persian Monarch	F. Paton.
MORGAN LINE.	
Am. s. s. Eureka	R. B. Quick.
NATIONAL LINE.	
Br. s. s. America	R. W. Grace.
Canada	Thos. Foote.
Denmark	B. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
Greece	A. J. Jeffrey.
Helvetia	G. Cochrane.
Holland	Wm. Tyson.
Italy	W. Pearce.
The Queen	John Milligan.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	C. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Ritrig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	H. Bodeker.
Donau	H. Swpmer.
Eider	H. Helmers.
Elbe	H. Christoffers.
Ems	T. Jungst.
Fulda	R. Ringk.
Hermann	Kohlmann.
Leipzig	H. Christoffers.
Main	R. Sander.
Rhein	C. Wiegand.
Trave	W. Willigerod.
Werra	Richard Bussius.
Weser	H. Beuns.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	J. W. Catherine.
City of Augusta	K. S. Nickerson.
City of Savannah	Ch. Offi. Edwards.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Mariposa	Capt H. M Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.

Name of vessel.	Captain.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. City of New York	Capt. Robt. R. Searle.
City of Peking	J. C. Dearborn.
City of Rio de Janeiro	Wm. B. Cobb.
Colima	J. M. Caverly.
City of Para	F. Henderson.
City of Sydney	Daniel Friele.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	T. Chapman.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J. S Garvin.
Trinidad	W. J. Fraser.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	A. G. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
W. A. Scholten	G. J. Vis.
Zaandam	H. v. d. Zee.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Braes.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
UNITED STATES AND WEST INDIES STEAMSHIP COMPANY.	
Jeanie	W. A. Freethy.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WEST INDIAN & PACIFIC STEAMSHIP COMPANY.	
Br. s. s. Yucatan	S. S. Sandrey.
WHITE CROSS LINE.	
Bdg. s. s. De Ruyter	J. J. Brarens.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Celtic	B. Glendell.
Germanic	C. W. Kennedy.
WILSON LINE.	
Br. s. s. Bassano	W. Rea.
Buffalo	J. B. Malet.
Chicago	J. W. Jones.
Galileo	R. Potter.
Marengo	Wm. Abbott.
MISCELLANEOUS.	
Br. s. s. Aboraca	John Temple.
Ada	E. Garner.
Nor. Amicitia	P. L. Reimers.
Br. Athens	Ch. Off. E. Towns.
Bedford	Capt. T. Atkenhead.
Craighill	W. H. Bennett.
Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	J. Scholtz.
Elstow	T. Robertson.
Span. Hugo	A. de Mugica.
Joshua Nicholson	S. Adamson.
Am. Lorenzo D. Baker	W. F. Wiley.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF AUGUST, 1886.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
OCTOBER, 1887.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, AUGUST, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.														
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
Australian.	° ′	° ′																									
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.74	755.4	29.87	758.7	51.7	10.9	77	6	6	2	.....	1	.....	:	10	5	8533	13732	6	3.09	78.5
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.57	751.1	29.76	755.9	46.4	8.0	90	5	7	7	4	3	3	1	.....	1	391	629	7	2.58	65.5
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.65	753.1	29.82	757.4	49.6	9.8	82	11	6	4	1	3	5	.....	1	.....	.....	.....	5	2.45	62.2
Austrian.																											
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.42	747.2	29.95	760.6	74.1	23.4	58	2	3	5	3	3	4	7	4	.....	.....	.....	5	4.19	106.5
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.22	742.2	29.97	761.3	72.1	22 3	57	3	5	7	4	.....	3	7	2	.....	.....	.....	6	2.38	60.4
Sperles	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.08	738.6	29.92	760.0	73.6	23.1	71	7	.....	.....	.....	.....	.....	.....	.....	24	.....	.....	5	2.53	64.2
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28 67	728 1	29.97	761.3	69.1	20.6	77	.....	1	8	3	.....	.....	3	6	10	.....	.....	5	6.90	175.3
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.97	735.8	29.93	760.2	72.0	22.2	67	2	8	4	1	.....	4	2	10	.....	.....	.....	6	1.52	38.5
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.84	757.8	29.94	760.5	77.9	25.5	63	1	.....	9	5	.....	4	5	5	2	.....	.....	4	2.76	70.1
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.48	748.9	29.95	760.7	80.1	26.7	40	6	5	6	3	2	5	2	1	1	.....	.....	5	1.82	46.2
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.62	752.4	29.90	759.4	79.5	26.4	54	4	3	2	4	4	3	3	3	5	.....	.....	4	1.49	37.9
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.88	759.0	29.98	761.5	77.0	25.0	56	2	8	5	3	.....	.....	2	9	2	.....	.....	5	3.83	97.3
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.29	744.0	29.99	761.8	75.6	24.2	58	7	6	8	1	.....	4	2	1	2	.....	.....	4	1.50	38.1
Brazilian.																											
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.97	761.2	30.12	765.1	65.5	18.6	86	1	17	.....	1	.....	3	1	6	2	.....	.....	8	5.37	136.5
British.																											
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.76	755.9	29.89	759.2	59.9	15.5	66	.....	2	6	4	12	4	3	.....	.....	7579	12197	6	1.00	25.4
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.98	761.5	63.2	17.3	70	1	3	13	7	3	2	1	1	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.56	750.8	29.97	761.2	63.4	17.4	65	6	6	6	5	3	2	1	2	.....	.....	.....	8	1.52	38.6
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.90	759.4	29.86	758.4	84.5	29.2	75	.....	.....	.....	.....	.....	3	1	4	23	.....	.....	5	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.93	760.2	30.13	765.3	67.4	19.7	74	2	1	1	2	3	4	.....	.....	18	.....	.....	7	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.85	758.2	30.05	763.3	63.3	17.4	80	1	4	1	7	5	10	3	.....	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.69	703.3	29.96	761.0	69.7	20.9	32	9	1	.....	2	3	1	5	10	.....	.....	.....	4	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.86	758.4	29.91	759.7	61.4	16.3	80	1	1	4	18	2	2	2	1	.....	.....	.....	7	3.43	87.1
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.07	763.8	30.23	767.8	77.2	25.1	77	.....	.....	7	.....	.....	.....	24	.....	.....	.....	.....	3	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.82	757.4	30.01	762.2	68.4	20.2	65	5	3	4	8	5	2	2	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.74	755.4	30.04	763.0	64.2	17.9	81	1	8	9	5	3	.....	.....	4	1	.....	.....	4	.....	.....
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.97	761.2	30.02	762.5	66.5	19.2	64	3	4	6	7	7	.....	2	2	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.71	754.6	29.98	761.5	65.7	18.7	69	3	1	4	16	2	.....	.....	5	.....	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.87	758.7	29.92	760.0	79.8	26.6	76	.....	18	3	.....	.....	4	.....	6	.....	.....	.....	1	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.96	761.0	29.95	760.7	84.7	29.3	75	3	.....	1	4	1	6	11	5	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.77	756.1	30.04	763.0	65.8	18.8	70	2	5	4	10	3	2	.....	2	3	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.95	760.7	30.04	763.0	65.7	18.7	79	.....	7	4	8	6	.....	.....	3	3	.....	.....	7	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.70	754.4	29.82	757.4	56.3	13.5	78	.....	5	10	5	5	6	.....	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.77	756.1	29.82	757.4	85.5	29.7	78	6	.....	.....	4	.....	1	.....	19	1	.....	.....	2	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.99	761.7	62.5	16.9	72	1	3	10	10	1	2	1	3	.....	.....	.....	8	2.35	59.7
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.95	760.7	30.00	762.0	60.9	16.1	82	3	.....	6	9	7	5	1	.....	...	.....	.....	8	.....	.....
Sub-series.																											
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.62	752.3	29.97	761.2	79.6	26.4	62	3	16	4	2	2	2	2	.....	.....	.....	.....	4	0.14	3.6
Canadian.																											
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.88	758.9	29.93	760.0	60.4	15.8	.....	.....	1	9	1	6	3	5	.....	5	.....	.....	8	4.50	114.3
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.87	758.7	29.93	760.2	57.2	14.0	86	3	.....	7	7	7	2	1	4	.....	2227	3582	6	2.95	74.9
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.65	753 1	29.85	758.2	67.7	19.8	76	.....	3	18	2	2	.....	5	1	.....	.....	.....	4	2.83	71.9
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.83	757 7	29.88	758.9	59.0	15.0	.....	0	.....	20	1	.....	.....	4	.....	3	.....	.....	4	3.37	85.6
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.85	758.2	29.87	758.7	54.1	12.3	86	2	1	6	13	1	.....	.....	7	1	a9518	a12210	6	2.99	75.9
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.08	738.6	29.91	759.7	52.3	11.3	86	11	4	2	4	4	2	3	1	.....	7267	11095	6	1.17	29.7
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	59	18	29.81	757 2	30.00	762.0	61.8	16.6	83	2	11	3	2	3	4	1	4	1	4439	7144	6	2.79	70.9
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.90	759.4	29.95	760.7	60 0	15.6	79	.....	7	4	3	4	3	.....	3	7	.....	.....	2	2.51	63.8
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.91	734.3	29.98	761.5	59.0	15.0	95	2	3	.....	.....	5	1	.....	...	20	1910	3074	4	3.23	82.0
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.84	757.9	29.97	761.2	60.3	15.7	93	1	6	6	2	4	5	2	1	4	.....	.....	7	4.51	114.6
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.61	752.1	30.00	762.0	65.0	18.3	76	3	5	2	10	2	2	4	3	.....	.....	.....	4	1.99	50.8
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.64	752.8	29.97	761.2	62.2	16.8	83	3	3	5	6	2	.....	2	6	4	3976	6399	6	0.68	17.3
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.88	758.9	29.92	760.0	64.0	17.8	80	3	3	4	11	6	1	2	.....	1	.....	.....	.....	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.12	739 5	30.00	762.0	60.0	15.6	91	1	.....	.....	.....	.....	.....	.....	.....	30	787	1268	5	2.54	64.5
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.64	702 0	29.84	757.9	61.8	16.6	65	.....	.....	1	11	1	1	.....	.....	17	.....	.....	1	0.11	2.8
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.11	714.0	29.88	758.9	47.7	8.7	89	3	5	1	.....	1	4	7	1	9	b5448	b8768	4	0.76	19.3
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.74	755.4	29.94	760.5	63.2	17.3	78	5	.....	15	5	5	1	.....	.....	.....	.....	.....	5	4.74	120.4
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	224	68	29.71	754.6	29.95	760.7	59.7	15.4	91	4	8	6	6	1	3	1	2	.....	3039	4891	5	3.47	88.1
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.28	743.7	29.96	761.0	58.6	14.8	93	4	2	5	3	3	10	1	1	2	5877	9458	5	5.21	132.3
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.19	741.4	29.98	761.5	61.4	16.3	83	1	6	3	1	5	.....	.....	1	14	.....	.....	4	1.78	45.2
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.22	742.2	29.92	760.0	54.8	12.7	84	3	6	3	3	.....	.....	1	4	11	2954	4754	4	1.25	31.7
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.31	744.5	29.99	761.7	61.4	16.3	96	3	2	4	2	3	.....	.....	1	16	2161	3478	5	3.36	85.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.34	745.2	29.98	761.5	60.4	15.8	93	4	9	1	2	.....	3	7	3	2	.....	.....	4	3.45	87.6
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.67	702.8	29.93	760.2	49.9	9.9	70	2	4	.....	2	7	2	3	2	9	a6434	a10354	3	0.72	18.3
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.60	751.8	29.92	760.0	58.6	14.8	93	4	.....	7	6	1	.....	.....	6	7	.....	.....	5	6.35	161.3
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.50	749.3	29.95	760.7	56.3	13.5	90	.....	5	10	.....	1	1	3	.....	11	.....	.....	3	5.35	135.9
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.87	758.7	29.92	760.0	56.8	13.8	93	.....	7	1	4	4	3	4	3	5	.....	.....	2	2.30	58.4
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.84	757.9	29.96	761.0	58.1	14.5	92	1	3	2	.....	10	1	2	2	8	.....	.....	7	3.33	84.6
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.91	759.6	58.6	14.8	.....	c	.....	18	1	.....	.....	6	.....	3	.....	.....	.....	3.44	87.2
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.26	743.2	29.96	761.0	59.3	15.2	86	2	2	.....	3	7	1	2	2	12	3029	4875	4	3.80	96.5
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	30	9	29.82	757.4	29.87	758.7	56.4	13.6	93	3	1	1	.....	9	2	6	2	7	.....	.....	5	2.76	70.1
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.73	729.7	29.97	761.2	59.3	15.2	88	4	2	3	6	7	1	.....	.....	8	2723	4382	5	3.04	77.2
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.35	694.7	29.90	759.4	52.1	11.2	.....	.....	4	3	7	7	1	.....	4	5	.....	.....	4	0.60	15.2
Sydney	N. 46 08	60 10	7.59 a.m.	37	11	29.88	758.9	29.94	760.5	61.9	16.6	83	2	2	3	7	10	2	2	1	2	2723	9910	5	3.51	89.2
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.61	752.1	29.98	761.5	61.8	16.6	82	5	5	5	2	2	3	.....	6	4	.....	.....	5	2.63	66.8
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.92	734.6	29.93	760.2	61.0	16.1	82	1	4	5	4	3	4	.....	3	7	.....	.....	5	2.73	69.3
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.87	758.7	29.94	760.5	58.0	14.4	91	3	5	1	2	5	4	1	5	5	.....	.....	3	4.44	112.8
Sub-series.																											
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.62	752.3	29.80	756.9	59.1	15.1	80	1	2	5	7	6	7	.....	3	.....	.....	.....	7	4.88	123.9
Chinese.																											
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	29.72	754.9	29.71	754.6	80.8	27.1	.....	1	4	.....	16	.....	2	.....	7	1	.....	.....	7	7.51	190.8
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.04	752.8	29.69	754.1	80.5	26.9	84	.....	.....	2	10	7	1	9	.....	2	.....	.....	8	9.07	230.4
Pakhoi	N. 21 29	E. 109 06	7.17 p.m.	19	6	29.73	755.1	29.77	756.1	82.3	27.9	.....	.....	.....	2	10	4	9	4	2	.....	.....	.....	.....	19.51	495.6
Sub-series.																											
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.71	754.6	29.72	755.0	81.1	27.3	93	3	.....	.....	.....	.....	4	9	10	5	.....	.....	6	10.25	260.5
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.66	753.4	29.72	754.9	79.1	26.2	.....	1	2	9	3	5	1	3	5	2	.....	.....	6	20.92	531.4
Danish.																											
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.89	759.3	29.97	761.3	66.2	19.0	65	2	7	7	1	8	3	2	1	.....	.....	.....	6	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.92	760.0	29.97	761.3	64.9	18.3	73	.....	2	9	8	3	5	4	.....	.....	.....	.....	5	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.83	757.7	29.95	760.7	62.2	16.8	75	.....	5	12	6	4	.....	1	1	2	.....	.....	5	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
FRENCH.	° ′	° ′																								
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.47	748.4	30.09	764.2	84.7	29.3	45	.....	2	10	11	8	...	.....	.....	.....	.....	.....	.....	1.09	27.7
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.54	750.2	30.03	762.8	70.0	21.1	72	4	4	1	6	7	.....	.....	9	.....	.....	.....	.....	2.31	58.7
Arras	N. 50 18	E. 2 46	0.11 p.m	223	68	29.80	757.0	30.04	762.9	70.2	21.2	66	.....	11	2	2	.....	3	1	3	9	.....	.....	.....	2.32	58.8
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.94	760.5	30.00	762.0	82.0	27.7	49	21	.....	1	3	4	1	1	.....	.....	.....	.....	1	0.80	20.4
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.48	748.7	30.03	762.7	72.3	22.4	63	.....	2	2	7	2	5	6	7	.....	.....	.....	6	3.14	79.7
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.73	755.2	30.03	762.7	72.9	22.7	74	4	12	3	7	.....	1	.....	4	.....	.....	.....	.....	2.53	64.2
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.15	740.5	30.02	762.6	71.4	21.9	63	.....	.....	.....	13	3	2	.....	13	.....	.....	.....	.....	1.57	39.8
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.82	757.3	30.07	763.8	73.4	23.0	60	1	7	8	5	2	3	3	1	1	.....	.....	7	2.03	51.6
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.67	753.7	30.02	762.6	74.5	23.6	54	4	6	11	2	1	.....	2	5	.....	.....	.....	.....	2.73	69.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.80	757.0	30.06	763.4	68.9	20.5	81	4	4	7	6	4	.....	1	1	4	.....	.....	7	13.48	342.5
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.56	750.7	30.04	762.9	68.9	20.5	70	5	3	9	3	6	.....	2	3	.....	.....	.....	7	0.82	20.9
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.73	755.1	30.05	763.3	72.5	22.5	88	2	2	6	7	9	1	.....	3	1	.....	.....	4	1.44	36.6
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.51	749.5	30.10	764.6	72.3	22.4	61	3	5	5	3	4	5	3	2	1	.....	.....	5	1.76	44.6
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.71	729.3	30.02	762.4	74.1	23.4	54	11	5	5	4	.....	1	2	3	.....	.....	.....	6	1.93	49.1
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.21	741.8	30.03	762.8	73.9	23.3	63	1	8	6	2	3	4	.....	7	.....	.....	.....	5	1.26	32.0
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	28.79	731.3	29.76	755.8	70.7	21.5	82	2	7	14	2	.....	2	3	1	.....	.....	.....	.....	1.17	29.7
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.55	699.8	29.99	761.8	73.2	22.9	50	4	8	.....	1	10	1	.....	7	.....	.....	.....	.....	0.12	3.1
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.89	733 8	29.97	761.1	79.0	26.1	44	2	9	6	6	5	2	.....	1	.....	.....	.....	8	1.69	43.0
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.29	744.0	30.04	763.1	73.2	22.9	62	3	14	4	1	2	.....	1	2	4	.....	.....	.....	3.81	96.7
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.50	723.8	30.03	762.8	68.9	20.5	78	.....	.....	9	14	3	.....	1	4	.....	.....	.....	6	1.84	46.6
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.51	749.6	30.08	764 1	75.6	24.2	61	2	4	17	3	3	1	1	.....	.....	.....	.....	.....	3.56	90.3
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.98	761.6	30.10	764.5	70.9	21.6	68	6	2	7	3	10	.....	1	2	.....	.....	.....	7	1.24	31.5
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	29.00	736.7	30.03	762.7	73.2	22.9	54	7	8	1	.....	4	5	2	4	.....	.....	.....	5	1.23	31.2
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.73	755.2	30.04	763.1	70.0	21.1	74	4	2	3	6	3	1	8	4	.....	.....	.....	3	1.79	45.5
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.72	755.0	29.98	761.5	78.6	25.9	50	.....	2	13	9	3	2	1	1	.....	.....	.....	3	0.63	15.9
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	28.94	735.0	29.84	758.0	63.7	17.6	57	2	1	5	15	.....	3	4	1	.....	.....	.....	4	2.92	74.2
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.89	759.2	30.00	762 1	81.5	27.5	56	5	10	3	2	4	2	1	2	.....	.....	.....	1	0.12	3.1
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.99	609.3	.....	.....	.....	.....	.....	7	7	2	4	4	5	.....	2	.....	.....	.....	3	3.40	86.3
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.29	743.9	30.05	763.3	70.5	21.4	68	5	4	1	15	.....	2	1	3	.....	.....	.....	.....	0.37	9.4
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.92	760.0	30.07	763.8	72.0	22.2	68	3	7	4	4	5	2	2	3	1	.....	.....	6	3.66	93.0
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.90	759.5	29.97	761.2	78.6	25.9	76	5	1	4	.....	7	1	9	1	3	.....	.....	5	0	0
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.92	760.1	30.04	762.9	77.4	25.2	51	1	13	2	.....	1	1	5	7	1	.....	.....	3	0.56	14.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.40	543.6	.....	.....	45.3	7.4	74	.....	.....	.....	8	2	2	1	.....	1	17	.....	3	2.75	69.9
Privas. ....[mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.98	736.1	30.01	762.2	76.5	24.7	48	13	1	1	3	5	.....	1	1	6	.....	.....	3g	1.30	33.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.27	641.9	.....	.....	53.1	11.7	85	3	6	4	9	1	2	1	5	.....	.....	.....	7	7.51	190.8
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.01	762.3	30.04	763.1	74.3	23.5	69	1	7	.....	4	.....	6	6	7	.....	.....	.....	5	1.38	35.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.78	756.5	30.06	763 4	73.9	23.3	58	2	6	10	4	3	2	1	3	.....	.....	.....	5	0.50	12.6
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.93	709.3	30.01	762.3	71.2	21.8	57	.....	22	.....	.....	.....	.....	.....	3	.....	.....	.....	.....	2.14	54.3
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.98	761.6	30.04	763.1	70.9	21.6	67	.....	4	8	9	2	2	.....	6	.....	.....	.....	.....	1.07	27.1
Saint Brieuce	N. 48 37	E. 5 08	0.20 p.m.	346	106	29.69	754.1	30.07	763.8	68.0	20.0	75	4	3	9	4	3	1	.....	7	.....	.....	.....	6	2.01	51.0
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	.....	.....	30.07	763.8	72.0	22.2	63	9	1	3	9	1	1	2	4	1	.....	.....	4	2.36	60.0
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.41	746.9	30.13	765.3	76.8	24.9	51	2	16	1	3	.....	9	.....	.....	.....	.....	.....	5	1.63	41.5
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.86	758.4	30.03	762.8	75.6	24.2	62	5	4	7	3	2	2	3	5	.....	.....	.....	3	0.95	24.1
Sub-Series.																										
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.95	760.8	30.10	764.6	73.6	23.1	66	1	8	11	2	.....	.....	.....	5	3	1	.....	6l	4.74	120.5
GERMAN.																										
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.59	726.2	29.98	761.6	70.5	21.4	54	1	5	8	4	.....	3	2	7	1	.....	.....	4	3.27	83.0
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.25	742.9	29.99	761.8	72.4	22.4	53	4	7	5	3	4	1	5	2	.....	.....	.....	4	1.73	44.0
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.84	757.8	30.00	762.0	71.8	22.1	48	2	4	7	3	8	.....	3	4	.....	.....	.....	6	0.63	16.0
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.48	748.7	30.01	762.2	70 7	21.5	52	3	6	9	1	1	3	3	3	2	.....	.....	6	2.90	75.2
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.58	751.2	30.01	762.3	72.7	22.6	62	2	.....	.....	15	3	2	3	5	.....	.....	.....	5	2.02	51.3
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.28	743.8	30.00	761.9	70.8	21.6	59	7	4	6	5	3	1	3	5	.....	.....	.....	5	1.78	45.1
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.65	753.1	30.04	763.1	73.9	23.3	52	4	1	6	5	4	1	4	6	.....	.....	.....	4	1.03	26.1
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.62	726.9	29.98	761.4	71.1	21.7	74	1	1	5	18	3	.....	.....	3	.....	.....	.....	5	6.65	169.0
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.91	759.6	29.99	761.7	67.3	19.6	67	2	2	9	7	3	6	1	1	.....	.....	.....	6	1.80	45.6
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.93	760 3	29.95	760.7	64.8	18.2	68	2	3	7	5	3	2	2	6	1	.....	.....	5	1.13	28.8
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.59	751.6	29.99	761.8	71.1	21.7	66	3	6	11	3	1	3	4	.....	.....	.....	.....	5	1.24	31.6
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.91	759.6	29.95	760.8	66.4	19.1	69	3	10	13	1	3	1	.....	.....	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.22	716 7	30.08	764.0	63.8	20.4	64	1	9	1	3	.....	2	3	4	8	.....	.....	6	7.71	195.9
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.93	760.2	29.97	761.2	67.7	19.8	66	6	1	11	.....	1	.....	3	9	.....	.....	.....	5	1.30	32.9
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.48	748.8	30.02	762.4	74.4	23.6	60	4	2	4	5	3	4	2	5	2	.....	.....	6	1.68	42.8
Stattgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.12	739.6	29.99	761.8	71.9	22.2	59	1	11	1	3	.....	6	.....	9	.....	.....	.....	5	2.13	54.2
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.95	760.8	29.98	761.4	65.5	18.6	71	5	2	9	7	.....	2	2	4	.....	.....	.....	5	1.25	31.7
GREEK.																										
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.49	749.0	29.85	758.3	90.9	32.7	42	3	1	.....	7	3	.....	.....	17	.....	.....	.....	2	0.91	23.2
INDIAN.																										
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.53	750.0	29.53	749.9	83.6	28.7	72	.....	.....	19	12	.....	.....	.....	.....	.....	.....	.....	6	0.06	1.5
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.13	739.9	29.54	750.4	84.4	29.1	69	.....	1	5	19	4	.....	.....	2	.....	.....	.....	9	8.93	226.8
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.69	754.1	29.67	753.5	81.5	27.5	80	1	7	22	1	.....	.....	.....	.....	.....	.....	.....	9	10.71	272.0
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.87	708.0	29.66	753.4	76.6	24.8	73	.....	3	21	7	.....	.....	.....	.....	.....	.....	.....	8	0.99	25.2
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2550	777	27.22	691.3	29.68	754.0	71.7	22.1	89	1	1	15	14	.....	.....	.....	.....	.....	.....	.....	9	4.25	107.0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.79	731.2	29.44	747.7	93.5	34.2	57	1	3	1	.....	2	7	1	.....	16	.....	.....	2	3.93	99.8
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.62	727.0	29.46	748.2	87.0	30.6	73	.....	.....	9	.....	3	2	1	15	.....	.....	.....	5	12.01	305.0
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	28.97	735 8	29.47	748.6	86.6	30.3	76	.....	7	9	3	1	3	2	4	.....	.....	.....	7	9.36	237.7
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.56	725.5	29.53	750.0	83.1	28.4	71	1	7	11	5	1	1	.....	3	.....	.....	.....	4	6.97	177.0
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.25	717.6	29.53	750.0	81.5	27.5	76	1	3	14	4	2	1	2	4	.....	.....	.....	8	7.25	184.2
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.18	741.2	29.50	749.2	85.0	29.4	78	12	4	1	.....	1	1	3	6	.....	.....	.....	8	6.74	171.2
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	397	94	29.22	742.2	29.48	748.8	86.1	30.1	74	1	2	10	2	1	.....	6	3	.....	.....	.....	8	7.51	190.8
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.37	746.1	29.51	749.4	84.5	29.2	86	.....	.....	9	2	2	4	8	1	5	.....	.....	8	18.27	464.0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.59	700.8	29.52	749.8	78.7	25.9	83	2	7	4	1	5	6	3	.....	3	.....	.....	9	12.15	308.6
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.48	748.8	29.50	749.4	84.2	29.0	78	.....	1	1	10	5	5	3	3	.....	.....	.....	9	7.40	188.0
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.57	751.0	29.53	750.0	82.5	28.1	86	.....	1	1	7	15	5	2	.....	.....	.....	.....	9	8.93	226.8
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.48	748.8	29.55	750.6	81.9	27.7	86	.....	.....	.....	9	4	1	1	16	.....	.....	.....	7	15.56	395.2
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.57	751.1	29.60	751.9	79.9	26.6	91	.....	.....	2	6	12	6	.....	5	.....	.....	.....	9	30.88	784.3
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.28	743.6	29.56	750.8	83.9	28.8	85	1	3	3	13	3	3	2	3	.....	.....	.....	6	12.76	324.1
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.14	714.7	29.50	749.3	85.3	29.6	68	1	8	10	3	1	1	.....	1	2	.....	.....	8	4.83	122.7
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1455	443	28.20	716.4	29.59	751.6	85.5	29.7	59	.....	9	18	.....	1	2	4	1	.....	.....	.....	8	.....	.....
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.48	748.8	29.68	753.9	87.1	30.6	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	7.60	193.0
ITALIAN.																										
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.50	749.2	29.89	759.2	75.7	24.3	56	4	3	2	7	8	1	4	2	7	.....	.....	5	3.63	92.1
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.47	748.4	29.97	761.1	79.3	26.3	52	1	2	3	5	8	5	4	3	.....	.....	.....	5	3.31	84.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.85	758.2	29.96	760.9	76.6	24.8	58	2	1	1	3	3	8	4	6	3	.....	.....	4	3.85	97.7
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	.....	.....	29.96	760.9	76.6	24.8	55	2	2	1	4	4	11	6	1	.....	.....	.....	4	2.23	56.6
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.76	756.0	29.95	760.8	76.3	24.6	67	4	2	.....	5	2	13	.....	3	2	.....	.....	4	3.59	91.1
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.91	759.8	29.96	761.0	74.3	23.5	67	10	5	1	.....	.....	.....	.....	.....	.....	.....	.....	4	1.88	47.8
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.70	754.4	29.95	760.7	78.6	25.9	45	4	6	8	4	1	1	1	10	5	.....	.....	4	3.91	99.3
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.89	759.1	29.97	761 1	77.0	25.0	62	2	5	13	4	1	.....	1	6	.....	.....	.....	4	1.35	34.2
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.77	756.1	29.94	760.4	82.8	28.2	41	4	.....	7	14	3	1	.....	5	.....	.....	.....	4	0.29	7.3
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.67	753.5	29.91	759.6	81.5	27.5	44	10	4	3	4	.....	2	1	7	.....	.....	.....	2	0.31	8.0
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	.....	.....	29.92	759.9	82.0	27.8	65	.....	5	18	1	.....	4	2	1	.....	.....	.....	3	1.31	33.2
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.86	758.4	29.90	759.5	81.5	27.5	64	5	.....	.....	.....	4	3	10	9	.....	.....	.....	1	1.20	30.5
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22 30	766 3	.....	.....	49.5	9.7	79	1	1	7	6	.....	.....	5	11	.....	.....	.....	6	4.20	106.8
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.33	767.2	.....	.....	50.9	10.5	67	3	3	2	8	.....	2	4	4	.....	.....	.....	7	1.74	44.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
JAPANESE.	° ′	° ′																								
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.86	758.3	29.90	759 3	74.5	23.6	98	4	.....	1	1	2	4	5	1	13	.....	.....	4	8.30	210.8
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.86	758.4	29.88	759.0	74.5	23.6	86	1	1	1	2	1	.....	.....	3	22	12031	13268	3	3.65	92.7
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	29.87	758.7	29.86	758.5	76.3	24.6	86	.....	2	.....	6	5	.....	1	7	10	.....	.....	7	6.88	174.2
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	29.90	759.4	29.92	760.1	79.4	26.3	79	1	1	.....	3	6	12	3	.....	5	2594	4175	6	5.46	138.5
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.88	758.9	29.88	758.9	72.2	22.3	86	4	1	6	4	.....	2	12	1	1	7346	11822	6	3.43	87.0
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.85	758.2	29.92	759.9	78.1	25.6	86	.....	.....	9	.....	1	1	6	5	9	.....	.....	5	1.39	35.3
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.87	758 7	29.86	758.4	79.8	26.6	76	6	.....	2	4	10	1	.....	2	6	4096	6592	4	8.08	205.2
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.82	757 3	29.89	759.2	78.7	25.9	83	3	.....	2	3	4	10	2	.....	8	3047	4903	5	7.05	179.0
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.88	759.1	29.86	758.5	78.6	25.9	82	1	2	3	.....	4	4	7	.....	10	3647	5870	5	5.64	143.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.76	755.8	29.90	759.4	79.0	26.1	76	9	.....	3	.....	6	3	7	3	.....	2718	4374	5	4.16	105.5
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.91	759.8	29.90	759.5	77.8	25.5	90	4	10	3	2	1	1	8	1	1	4036	6481	4	11.36	288.6
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.88	759.0	29.87	758.8	77.8	25.5	89	3	.....	7	1	4	3	6	.....	7	5585	8988	4	11.61	294.8
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.81	757.2	29.90	759.4	73.3	22.9	89	1	2	9	8	3	2	..	4	2	1874	3017	4	1.93	48.9
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.68	754 0	29.85	758.1	78.8	26.0	84	.....	.....	3	9	6	3	3	2	5	3968	6386	6	7.56	192.0
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.80	756.9	29.89	759.1	65.4	18.6	94	3	.....	.....	4	12	.....	7	1	4	4038	6499	6	4.62	117.3
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.87	758 6	29.88	759.0	79.4	26.3	81	3	.....	.....	6	3	2	5	.....	12	3775	6079	4	4.32	109.9
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.89	759.3	29.89	759.3	76.9	25.0	86	.....	3	2	.....	10	3	7	.....	6	7516	12096	5	0.60	15.2
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.91	759.7	29.92	760.0	78.5	25.8	85	1	.....	3	9	6	.....	7	5	.....	.....	.....	6	8.15	207.1
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.88	758.8	29.89	759.3	80.0	26.7	78	.....	.....	18	2	1	.....	3	2	5	6260	10074	5	0.95	24.1
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.87	758.8	29.86	758.4	79.2	26.2	80	3	1	4	2	1	.....	3	6	11	4396	7075	5	4.72	119.8
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.72	754.9	29.88	758.9	77.9	25.5	83	.....	1	1	2	.....	2	17	2	6	.....	.....	5	5.46	138.6
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.81	757.2	29.86	758.3	67.0	19.4	89	2	.....	1	3	9	4	7	1	4	8805	14169	6	3.89	98.9
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.80	757.2	29.87	758.7	70.9	21.6	85	4	3	.....	.....	12	4	.....	1	7	6024	9694	5	4.94	125.4
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.86	758.5	29.91	759.7	78.0	25.6	82	2	1	.....	.....	21	1	3	2	.....	6026	9698	4	3.43	87.1
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.86	758.4	29.88	759.0	80.1	26.7	77	2	.....	1	1	17	1	3	.....	6	3688	5935	5	0.69	17.6
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.95	760.7	30.13	765 2	71.7	22.1	58	.....	3	1	.....	.....	8	18	1	.....	4550	7322	5	0.74	18.8
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.68	601.4	29.82	757.4	60.3	15.7	74	2	2	1	1	.....	.....	1	24	.....	.....	.....	7	4.27	108.5
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.30	617.4	29.88	758.9	61.7	16.5	88	2	12	3	9	.....	1	1	3	.....	.....	.....	7	4.55	115.5
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.63	752.5	29.83	757.7	79.7	26.5	83	2	4	.....	.....	1	11	10	3	.....	.....	.....	6	13.03	331.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.08	586.2	30.09	764.3	55.2	12.9	86	2	4	1	.....	.....	.....	.....	.....	24	.....	.....	6	3.66	93.0
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.58	573.5	301.4	765.5	53.8	12.1	72	.....	.....	2	5	.....	18	4	2	.....	.....	.....	4	3.19	81.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.98	761.5	30.00	762.1	68.0	20.0	.....	2	2	5	11	1	1	6	3	.....	.....	.....	.....	1.32	33.4
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.92*a*	760.0*a*	30.00*a*	762.0*a*	67.5*a*	19.7	.....	*a*4	7	0	2	2	2	4	2	1	.....	.....	.....	2.16	54.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.98	761.4	30.00	762.0	64.6	18.1	.....	4	2	6	8	3	1	2	5	.....	.....	.....	.....	0.61	15.5
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.98	761.6	30.01	762.2	70.0	21.1	.....	2	2	9	5	2	.....	2	3	6	.....	.....	.....	0	0
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.96	760.9	30.03	762 7	69.6	20.9	.....	4	3	5	9	3	3	2	2	.....	.....	.....	5	1.72	43.7
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	29.94	760.5	29.89	759.1	80.4	26.9	79	7	1	.....	1	.....	.....	7	14	1	.....	.....	5	0.36	9.2
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.78	756.3	29.88	758.9	59.3	15.1	75	.....	2	8	2	16	3	.....	.....	.....	.....	.....	7	10.56	268.3
Bronn	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.69	754.2	29.78	756.5	58.3	14.6	76	7	1	2	11	2	2	2	.....	4	.....	.....	8	5.58	141.6
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.67	753.6	29.85	758.2	65.5	18.6	54	1	1	1	11	12	3	.....	1	1	.....	.....	5	0.85	21.7
Gjæsvær	N. 71 00	E. 25 22	1.41 p.m.	23	7	29.70	754.4	29.79	756.6	58.1	14.5	.....	1	.....	6	3	2	2	8	.....	9	.....	.....	6	1.53	38.8
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.04	762.9	30.09	764.3	75.2	24.0	67	.....	.....	.....	28	.....	1	1	.....	1	.....	.....	4	0	0
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.72	754.8	30.02	762.6	77.5	25.3	42	11	10	1	2	2	2	.....	3	.....	.....	.....	1	0	0
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.22	767.5	30.26	768 7	78.3	25.7	68	5	.....	5	7	.....	2	1	8	3	.....	.....	5	1.76	44.6
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.88	758.9	29.85	758.2	80.4	26.9	71	*a*22	.....	.....	.....	.....	.....	.....	5	3	.....	.....	6	1.48	37.6
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.09	713.6	29.86	758.5	74.5	23.6	59	.....	.....	.....	17	5	.....	.....	.....	9	.....	.....	6	0	0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	29.34	745.2	29.96	761.0	65 5	18.6	46	5	2	4	3	.....	3	6	8	.....	.....	.....	2	0.39	10.0
RUSSIAN.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.66	753.4	29.73	755.1	63.0	17.2	63	.....	5	5	3	2	2	5	6	3	.....	.....	7	.....	.....
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.25	742.9	29.75	755.6	68.5	20.3	61	2	4	2	5	3	1	2	5	7	.....	.....	6	2.08	52.7
Baku	N. 40 21	E. 49 51	3.19 p.m.	37	11	29.88	758.9	29.83	757.7	81.0	27.2	59	15	.....	.....	.....	5	7	2	2	.....	.....	.....	2	0.01	0.2
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.57	751.1	29.84	757.9	68.2	20.1	64	2	7	8	8	.....	1	4	.....	1	.....	.....	7	2.28	57.8
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.49	749 0	29.94	760.5	77.4	25.2	47	3	13	8	2	1	1	2	1	.....	.....	.....	5	1.88	47.8
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	999	274?	28.59	726.2	29.66	753.4	64.2	17.9	68	2	3	5	4	5	1	3	1	7	.....	.....	8	3.83	97.3
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.15	715.0	29.88	758.9	61.9	16.6	65	1	3	8	1	5	6	.....	.....	7	.....	.....	6	3.46	88.0
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148?	45?	29.47	748 5	29.64	752.8	83.5	28.6	35	1	5	16	3	1	1	2	2	.....	.....	.....	3	0.15	3.9
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.43	747.5	29.72	754.9	68.2	20.1	62	2	5	5	8	2	5	1	2	1	.....	.....	8	0.49	12.4
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.70	754.4	29.80	756.9	59.9	15.5	73	3	4	3	2	.....	.....	6	9	4	.....	.....	8	1.12	28.5
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20	6	29.87	758 7	29.90	759.4	78.8	26.0	56	6	1	4	.....	6	1	3	9	1	.....	.....	2	.....	.....
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.20	741.7	29.91	759.7	73.9	23.3	65	6	6	8	4	3	4	.....	.....	.....	.....	.....	5	2.68	68.0
Korostishev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.32	744.7	.....	.....	75.4	24.1	54	6	8	2	4	1	2	2	4	2	.....	.....	6	1.95	49.6
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.21	741.9	29.75	755.6	69.6	20.9	63	3	7	7	8	3	2	.....	1	.....	.....	.....	6	.....	.....
Lgov	N. 51 41	E. 35 17	2.21 p.m.	518	158	29.24	742.7	29.89	759.2	73.0	22.8	61	2	6	9	3	2	.....	2	.....	7	.....	.....	7	3.47	88.1
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.88	758.9	29.93	760.2	64.4	18.0	71	.....	6	15	5	2	1	2	.....	.....	.....	.....	7	1.85	46.9
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.75	755.6	29.89	759.2	83.1	28.4	34	1	7	10	5	.....	1	4	3	.....	.....	.....	5	0.45	11.4
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.22	742.2	29.77	756.1	67.6	19.8	65	5	10	4	4	3	1	.....	1	3	.....	.....	6	4.60	118.4
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	29.85	758.2	29.91	759.7	82.9	28.3	44	9	1	1	1	4	.....	3	1	11	.....	.....	4	0.82	20.8
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.64*b*	752.8*b*	29.73*b*	755.1*b*	*b*56.3	*b*13.5	81*b*	*b*	6	4	.....	.....	1	4	4	10	.....	.....	7	.....	.....
Nertchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.71	703.8	29.93	760.2	55.9	13.3	74	1	2	.....	2	3	.....	.....	1	22	.....	.....	5	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.21	741.9	29.82	757.4	64.4	18.0	63*a*	3	8	3	2	1	3	5	6	.....	.....	.....	8	3.44	87.5
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.21	741.9	29.62	752.3	67.6	19.8	64	.....	4	10	3	1	4	3	4	2	.....	.....	9	4.41	112.8
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.40	746.7	29.72	754.9	89.4	31.9	.....	7	10	2	1	.....	1	1	6	3	.....	.....	2	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.18 p m.	220?	67?	29.46	748.3	29.75	755.6	64.0	17.8	67	1	8	7	3	1	1	6	2	2	.....	.....	6	4.07	103.4
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.44	747.8	29.95	760.7	73.2	22.9	53	3	4	7	6	1	3	2	3	2	.....	.....	6	0.28	7.2
Poti	N. 42 09	E. 41 37	2.46 p.m.	20	8	29.82	757.4	29.84	757.9	78.1	25.6	69	.....	10	7	10	2	1	.....	.....	1	.....	.....	3	5.18	131.6
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.75	755.6	29.81	757.2	66.9	19.4	64	2	6	13	4	2	2	1	1	.....	.....	.....	6	4.57	116.1
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2378?	725?	27.34	694.4	29.63	752.6	84.9	29.4	.....	1	.....	.....	.....	.....	5	.....	.....	25	.....	.....	1	.....	.....
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.70	754.4	29.93	760.2	81.5	27.5	50	.....	6	16	7	.....	.....	.....	2	.....	.....	.....	1	0.07	1.8
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.09	713.5	29.90	751.8	92.1	33.4	33	.....	6	5	3	2	.....	.....	.....	15	.....	.....	2	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.46	722.9	29.79	756.7	85.3	29.6	38	2	8	2	.....	3	9	5	.....	2	.....	.....	4	1.15	29.3
Troitskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	26.97*b*	685.0*b*	29.89*b*	759.2*b*	*b*63.7	*b*17.6	70*b*	*b*6	8	.....	.....	3	.....	.....	.....	11	.....	.....	5*b*	2.00	50.7
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.53	750.0	29.97	761.2	71.8	22.1	51	3	10	9	.....	2	1	4	1	1	.....	.....	6	0.60	15.2
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581	175	28.96	735.6	29.68	753.9	64.4	18.0	69	5	5	7	3	2	4	2	3	.....	.....	.....	7	4.87	123.7
Yeniseisk	N. 58 27	E. 92 06	6 08 p.m.	275?	84	29.54	750 3	29.89	759.2	66.2	19.0	69	3	2	1	3	1	5	7	1	8	.....	.....	6	2.32	58.9
SCOTTISH.																										
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	29.81	757.2	29.91	759.7	.....	.....	.....	*a*	3	7	10	3	3	2	2	.....	.....	.....	8	0.81	20.6
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.89	759.1	30.05	763.3	76.3	24.6	66	.....	2	1	.....	10	10	3	5	.....	.....	.....	4	0.44	11.1
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.04	762.9	30.10	764.4	75.2	24.0	69	4	16	3	.....	1	3	2	2	.....	.....	.....	7	4.90	124.4
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.17	690.1	30.02	762.4	72.1	22.3	56	4	3	4	2	5	1	.....	12	.....	.....	.....	3	1.46	37.0
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.85	707.4	29.95	760.6	79.5	26.4	33	4	.....	4	2	3	5	4	9	.....	.....	.....	3	0.83	21.1
Santingo	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.17	741.0	30.07	763.7	75.2	24.0	59	5	6	1	1	.....	.....	.....	9	9	.....	.....	5	0 34	8.6
Sub-Series.																										
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.91	759.6	29.92	760.0	77.4	25.2	88	2	.....	.....	1	5	4	16	3	.....	.....	.....	4	10.01	254.3
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.81	757.1	29.80	756.9	82.0	27.8	82	1	1	6	18	1	2	.....	2	.....	4289	6891	7	9.74	247.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.92	760.0	30.00	762 0	81.8	27.7	84	.....	.....	.....	14	3	2	1	11	.....	.....	.....	2	0	0
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.92	760.0	29.93	760.2	81.1	27.3	84	.....	.....	.....	.....	3	12	6	1	9	.....	.....	4	10.39	264.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for August, 1886.																				Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles.	Kil.		Inch.	Mill.
SWEDISH.	° ′	° ′																								0–10		
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.71	754.6	29.80	756.9	64.0	17.8	67	5	4	2	4	9	2	1	1	3	.....	.....	6	1.87	47.4
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.71	754.7	29.81	757.2	64.9	18.3	64	.....	4	3	12	4	.....	5	3	.....	.....	.....	6	3.26	82.8
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.73	755.1	29.82	757.5	66.4	19.1	62	2	3	2	4	7	4	3	4	2	.....	.....	6	0.59	15.0
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.67	753.5	29.88	758.9	67.5	19.7	65	5	4	11	3	3	3	.....	.....	2	.....	.....	5	0.87	22.0
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.77	756.1	29.86	758.4	65.3	18.5	68	3	4	17	2	2	1	1	1	.....	.....	.....	3	0.43	11.0
Sub-Series.																												
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.76	755.8	29.84	758.0	67.3	19.6	60	1	4	6	10	5	3	1	1	.....	.....	.....	6	1.48	37.6
SWISS.																												
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.63	727.3	30.02	762.4	71.8	22.1	63	17	4	2	2	3	1	.....	2	.....	.....	.....	6	2.28	57.8
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.87	758.6	78.8	26.0	55	13	2	.....	2	2	.....	1	11	.....	.....	.....	3	2.80	71.1
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.11	764.9	85.3	29.6	.....	.....	7	2	17	5	.....	.....	.....	.....	.....	.....	1	0.47	12.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.71	754.6	86.7	30.4	58	5a	.....	21	4	.....	.....	.....	.....	.....	.....	.....	1	0	0
UNITED STATES.																												
New Engl'd states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.87	758 7	29.94	760.5	57.6	14.2	87	6	.....	4	3	11	.....	1	2	4	3993	6426	4	2.41	61.2
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.85	758.2	29.95	760.7	62.0	16.7	82	2	5	11	4	4	.....	2	1	2	4561	7340	4	3.93	99.8
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.87	606.3	29.97	761.2	45.2	7.3	88	1	15	9	2	4	.....	.....	.....	.....	.....	.....	3	8.34	211.8
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.84	757.9	29.96	761.0	64.1	17.8	78	1	10	10	2	.....	1	1	6	.....	7152	11510	4	3.04	92.4
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.95	760.7	29.97	761.2	65.5	18.6	91	3	9	3	4	3	2	2	5	.....	8366	13464	3	2.47	62.7
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.95	760.7	29.99	761.7	65.4	18.6	85	7	6	2	3	1	2	1	5	4	4149	6677	5	5.04	128.0
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.88	758.9	29.98	761.5	64.1	17.8	85	4	5	2	4	3	.....	1	6	6	4167	6706	5	4.56	115.8
Mid. Atlan. states.																												
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	29.92	760.0	30.00	762.0	64.1	17.8	78	3	6	1	.....	12	2	1	2	4	3684	5929	4	0.87	22.1
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.83	757 7	29.99	761.7	67.5	19.7	79	5	6	5	3	2	2	2	5	1	5064	8150	4	1.18	30.0
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.89	759.2	30.00	762.0	68.0	20.3	86	3	2	10	3	2	3	1	6	1	5711	9191	5	1.38	35.1
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	29.96	761.0	29.98	761.5	68.2	20.1	87	2	2	8	7	1	.....	3	8	.....	9441	15194	4	2.75	69.8
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	29.99	761.7	29.99	761.7	69.5	20.8	87	4	3	5	7	1	3	2	3	3	5410	8706	5	3.58	90.9
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	29.97	761.2	30.00	762.0	69.4	20 8	81	5	6	5	1	2	2	1	7	2	3680	5922	5	3.94	100.1
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.91	759.7	30.01	762.2	68.4	20.2	85	4	4	4	5	3	3	2	5	1	3371	5425	6	2.43	61.7
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	29.99	761.7	29.98	761.5	71.7	22.1	87	1	3	2	6	4	5	4	6	.....	6906	11114	5	6.71	170.4
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.98	761.5	29.98	761.5	72.7	22.6	87	4	1	1	12	3	.....	4	6	.....	9439	15190	5	5.27	133.9
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.34	745.2	30.00	762.0	68.8	20.4	91	1	2	5	5	3	1	7	6	1	1816	2923	6	4.29	109.0
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	29.98	761.5	29.98	761.5	72.0	22.2	89	1	2	1	7	3	4	1	8	4	3280	5279	6	10.23	259.8
S. Atlantic states.																												
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	29.99	761.7	29.98	761.5	74.1	23.4	84	.....	1	5	8	2	4	1	10	.....	10659	17154	6	7.34	186.4
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.00	762.0	29.98	761.5	74.9	23.8	89	4	1	7	5	.....	1	.....	8	5	7140	11490	6	9.74	247.4
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	29.99	761.7	29.97	761.2	75.7	24.3	89	5	1	3	10	3	3	1	5	.....	11174	17982	7	7.08	179.8
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	29.96	761.0	29.97	761.2	75.2	24.0	90	5	1	8	5	3	2	2	5	.....	7624	12269	7	3.36	85.3
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	29.95	760.7	29.98	761.5	74.4	23.6	89	2	3	5	6	1	2	3	6	3	4517	7269	6	4.38	111.2
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.19	741.4	30.01	762 2	69.9	21.1	93	3	1	1	7	1	1	5	10	2	3101	4990	7	6.34	161.0
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	29.96	761.0	29.98	761.5	75.7	24.3	87	1	3	4	11	1	.....	.....	6	5	5313	8550	5	3.28	83.3
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.84	757.9	30.00	762.0	72.4	22.4	92	3	1	1	1	8	7	2	4	4	2515	4047	5	2.29	58.2
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	29.93	760 2	29.99	761.7	76.3	24.6	90	5	.....	3	15	4	1	.....	3	.....	4637	7462	6	7.32	185.9
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	29.98	761.5	29.99	761.7	77.6	25.3	89	3	.....	.....	12	5	5	.....	3	3	4092	6585	4	6.25	158.7
Florida penin'la.																												
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.01	762.2	29.99	761.7	78.8	26.0	85	4	.....	2	5	4	3	5	8	.....	6136	9875	6	7.08	179.8
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.97	761.2	29.94	760.5	83.3	28.5	78	.....	.....	1	2	1	9	10	6	2	8488	13660	6	4.54	115.3
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	29.97	761.2	29.95	760.7	77.1	25.1	90	5	.....	1	3	6	4	2	5	5	4406	7091	4	4.12	104.6
East Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.88	733.5	30.01	762.2	70.1	21.2	91	.....	7	4	5	2	3	5	4	1	5241	8434	4	2.36	59.9
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	29.95	760.7	29.94	760.5	77.3	25.2	86	4	3	5	6	.....	2	5	5	1	4862	7824	5	8.82	224.0
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	29.96	761.0	29.96	761.0	75.2	24.0	89	4	11	5	1	1	.....	1	7	1	4670	7516	5	3.55	90.2
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.77	756.1	29.97	761 2	74.5	23.6	87	1	1	1	6	5	7	2	7	1	3172	5105	6	5.37	136.4
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.77	756.1	29.97	761.2	74.4	23.6	90	.....	1	1	4	5	7	5	3	5	3280	5279	3	2.42	61.5
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	29.93	760.2	29.95	760.7	77.5	25.3	88	2	3	2	8	3	3	3	6	1	4399	7079	4	2.40	61.0
West Gulf states																												
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.75	755.6	29.95	760.7	74.4	23.6	90	.....	2	2	3	8	6	4	1	5	3003	4833	2	3.60	91.4
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.47	748.5	29.95	760.7	71.5	21.9	90	.....	.....	.....	1	.....	5	17	.....	8	2466	3969	4	1.82	46.2
Little Rock	N. 34 45	W. 92 06	5.52 a.m	288	88	29.65	753.1	29.92	760.0	72.6	22.6	91	3	4	1	5	1	1	3	6	7	3015	4852	4	5.31	134.9
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.95	760 7	29.95	760.7	80.8	27.1	82	1	3	.....	5	9	5	2	4	2	6945	11177	5	.....	.....
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.46	748.3	29.97	761.2	74.3	23.5	85	1	.....	1	.....	1	19	2	3	4	.....	8747	4	1.32	33.5
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.16	740.7	29.92	760.0	74.4	23.6	90	5	.....	1	.....	6	9	4	3	3	4404e	7184e	6	4.79	121.7
Rio Grande valley.																												
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	29.88	758.9	29.89	759.2	75.7	24.3	97	3	1	2	.....	10	10	4	1	.....	4768	7673	3	3.08	78.2
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.74	755.4	29.93	760 2	76.3	24.6	87	5	2	.....	.....	1	7	7	4	5	4908	7898	4	0.63	16.0
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.23	742.4	30.01	762.2	70.2	21.2	88	4	1	6	8	1	3	2	4	2	3257	5242	5	3.96	100.6
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.03	737.3	30.03	762.7	69.3	20.7	91	3	.....	4	.....	2	1	3	9	9	2627	4228	4	5.17	131.3
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.67	753.6	29.98	761.5	73.2	22.9	87	2	4	2	6	3	4	3	7	.....	4041	6503	4	6.49	164.8
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.43	747.5	29.98	761.5	70.0	21.1	89	.....	4	3	2	1	6	6	8	1	3643	5863	5	5.50	139.7
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.43	747.5	29.98	761.5	69.0	20.6	83	10	4	.....	1	6	7	.....	2	1	3812	6135	5	4.43	112.5
Greencastle	N. 39 39	W. 86 51	6.13 a.m	897	273	29.07	738.4	29.99	761.7	67.4	19.7	88	2	1	.....	3	7	4	5	6	3	3227	5194	5	4.53	115.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.20	741.7	30.00	762 0	67.0	19.4	85	7	1	1	4	6	2	5	5	.....	3028	4873	5	6.70	170.2
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.35	745.5	29.99	761.7	67.9	19.9	85	2	2	1	4	4	7	2	5	4	3972	6392	5	2.91	73.9
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.16	740.7	30.00	762.0	64.7	18.2	86	5	3	3	5	3	5	1	4	2	3955	6365	5	2.44	62.0
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.12	739.6	30.00	762.0	65.9	18.8	87	7	11	.....	1	3	2	3	3	1	3421	5516	6	2.85	72.4
Lower lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.33	745 0	29.99	761.7	61.9	16.6	86	2	2	6	12	6	1	.....	1	1	6547	10536	4	7.26	184.4
Buffalo	N. 42 53	W. 78 53	6.44 a.m	690	210	29.27	743.4	30.00	762.0	63.6	17.6	79	1	.....	5	2	9	4	4	5	1	5709	9188	4	2.77	70.4
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.62	752.3	29.98	761.5	62.8	17.1	80	4	5	2	4	11	4	1	.....	.....	6418	10329	6	2.58	65.5
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.27	743.4	29.99	761.7	65.1	18.4	74	2	2	1	4	12	3	5	2	.....	5582	8983	4	1.53	38.9
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.34	745.2	30.00	762.0	66.4	19.1	82	4	1	2	11	7	3	1	2	.....	7312	11767	6	3.78	96.0
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.26	743.2	29.98	761.5	65.1	18.4	80	3	2	1	3	7	11	2	2	.....	5575	8972	5	1.36	34.5
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.33	745.0	30.02	762.5	64.1	17.8	84	8	4	1	8	7	.....	.....	3	.....	4841	7791	5	3.13	79.5
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.29	744.0	29.99	761.7	65.2	18.4	85	3	2	4	9	1	.....	3	9	.....	5618	9041	5	2.02	51.3
Upper lake region.																												
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.31	744.5	29.97	761.2	58.7	14.8	90	4	5	6	2	2	5	.....	.....	7	5583	8985	4	3.48	88.4
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.30	744.2	29.96	761.0	58.8	14.9	86	10	4	2	8	1	1	1	3	1	5352	8613	4	4.38	111.2
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.31	744.5	29.97	761.2	63.2	17.3	85	1	2	.....	.....	6	7	7	5	3	6165	9921	6	6.57	166.9
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.29	744.0	29.94	760.5	61.0	16.1	82	4	4	4	3	5	2	4	2	3	5616	9038	4	3.25	82.5
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.22	742.2	29.95	760.7	60.1	15.6	78	2	8	13	4	1	1	.....	1	1	5922	9530	5	3.70	94.0
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.31	744.5	29.99	761.7	61.5	16.4	88	3	2	3	1	11	2	.....	9	.....	5404	8697	4	2.73	69.3
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.28	743.7	29.97	761.2	68.8	20.4	79	1	2	1	5	6	6	5	.....	.....	5432	8742	5	3.38	85.9
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.21	741.9	29.94	760.5	64.7	18.2	82	1	2	3	7	3	3	5	6	1	6609	10636	6	3.40	86.4
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.22	742.2	29.95	760.7	59.6	15.3	83	3	10	2	4	.....	2	.....	9	1	4453	7166	3	2.23	56.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for August, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
U. STATES—Con.																												
Upper Miss. val.	° ′	°																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.07	738.4	29.95	760.7	61.3	16.3	86	1	8	3	1	2	7	5	4	.....	4842	7792	4	2.27	57.7
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.22	742.2	29.99	761.7	66.1	18.9	85	4	6	2	3	13	1	1	1	.....	4465	7186	5	3.90	99.1
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.32	744.7	29.95	760.7	67.2	19.6	83	3	3	.....	4	3	2	6	2	8	4582	7374	5	2.67	67.8
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.07	738.4	29.94	760.5	68.4	20.2	83	6	3	1	4	5	5	1	3	3	3176	5111	5	1.10	27.9
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.27	743.4	29.96	761.0	66.0	18.9	80	4	.....	4	3	8	3	2	2	5	3261	5248	5	0.67	17.0
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.31	741.5	29.94	760.5	69.6	20.9	79	6	1	.....	7	5	4	6	2	.....	5273	8486	4	5.90	149.9
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.62	752.3	29.98	761.5	70.7	21.5	91	4	3	.....	6	10	1	6	1	.....	4308	6933	5	2.84	72.1
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.33	745.0	29.99	761.7	69.5	20.8	81	4	2	1	2	5	2	5	.....	10	4606	7412	4	4.19	106.4
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.39	746 5	29.97	761.2	73.9	23.3	73	5	1	1	9	2	5	4	2	2	6945	11177	4	2.44	62.0
Missouri valley.																												
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.10	739.1	29.96	761.0	70.4	21.3	82	5	3	1	.....	11	6	.....	3	2	4762	7664	4	0.73	18.5
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.81	731.8	29.96	761.0	67.8	19.9	82	6	4	.....	.....	13	3	.....	.....	5	4318	6949	5	2.53	64.3
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.26	717.8	29.91	759.7	66.3	19.1	71	1	3	.....	.....	2	5	4	1	15	5807	9345	3	1.41	35.8
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.56	725.4	29.94	760.5	60.2	15.7	88	6	6	.....	1	3	8	2	4	1	5749	9252	3	5.62	142.7
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	374	28 64	727.4	29.93	760 2	64.4	18.0	89	1	4	3	2	6	3	2	7	3	4318	6949	4	5.40	137.2
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	28.92	734.6	29.97	761.2	69.0	20.6	85	5	1	2	4	10	3	4	2	.....	6209	9992	5	4.37	111.0
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.30	693.4	29.94	760.5	62.3	16.8	81	1	6	5	12	.....	2	1	4	.....	8304	11364	4	1.86	47.2
Extreme N'thwest.																												
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.93	734.8	29.93	760.2	56.6	13.7	90	4	3	2	2	9	3	2	3	3	6229	10024	2	1.32	33.5
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.07	738.4	29.95	760.7	54.4	12.4	92	10	4	3	.....	8	3	1	.....	2	5873	9452	3	0.41	10.4
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.15	715.0	29.93	760.2	59.1	15.1	77	7	1	.....	.....	3	4	4	9	3	5530	8900	4	1.45	36.8
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.92	709.2	29.87	758.7	57.1	13.9	72	2	5	1	1	2	.....	11	8	1	6228	10023	5	0.87	22.1
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.35	720.1	29.95	760.7	58.0	14.4	82	6	5	.....	6	6	2	1	3	2	7973	12831	3	1.06	26.9
Northern slope.																												
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.18	690.4	29.96	761.0	57.2	14.0	61	.....	1	10	9	1	4	4	1	1	6855	11032	4	0.35	8.9
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.22	691.4	29.97	761.2	54.8	12.7	64	1	5	3	4	1	1	1	6	9	2610	4200	2	0.66	16.8
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.84	681.7	29.92	760.0	59.6	15.3	68	7	1	3	6	1	9	1	.....	3	4155	6687	3	0.71	18.0
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.62	650.7	29.96	761.0	55.7	13.2	60	12	8	.....	1	1	4	1	4	.....	3944	6347	3	0.79	20.1
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.38	670.0	29.96	761.0	55.9	11.1	63	1	8	15	3	.....	.....	2	2	.....	2517	4051	2	0.19	4.8
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.88	657.3	29.95	760.7	57.8	13.8	57	.....	1	1	29	.....	.....	.....	.....	.....	5388	8671	1	0.03	0.8
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.84	707.1	29.92	760.0	59.7	13.7	70	16	.....	1	1	4	.....	2	7	.....	5967	9603	3	0.51	13.0
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.44	646.2	30.01	762.2	59.6	15.3	74	.....	1	.....	9	5	1	.....	.....	15	1735	2792	2	1.84	46.7
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.10	612.1	29.93	760.2	56.7	13.7	78	3	11	2	2	4	.....	.....	1	8	4831	7775	4	1.61	40.9
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.09	688.1	29.95	760.7	64.2	17.9	87	2	4	4	5	2	7	3	3	1	6124	9855	3	1.99	50.5
Middle slope.																												
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	(4134	4308	18.10	459.7	29.97	761.2	37.2	2.9	83	4	3	16	1	2	.....	.....	5	.....	7253	11672	3	3.18	80.8
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.50	723.9	29.92	760.0	66.4	19.1	85	5	2	1	5	5	5	2	3	3	5157	8299	4	2.46	62.5
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.84	630.9	29.93	760.2	60.6	15.9	75	5	2	.....	5	18	.....	1	.....	.....	4918	7915	4	1.62	41.1
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.08	662.4	29.91	759.7	63.2	17.3	84	.....	3	8	5	1	3	8	1	2	4477	7205	3	1.17	29.7
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2517	767	f27 42	f696.5	f29.98	f761.5	f68.1	f20.1	f86	3	2	.....	6	7	9	1	3	.....	7468	12018	5	2.46	62.5
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.26	692.4	29.90	759.4	68.6	20.3	81	3	2	.....	7	3	7	1	2	6	6443	10369	3	4.57	116.1
Southern slope.																												
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.75	730.2	29.95	760.7	72.9	22.7	73	10	.....	.....	1	12	4	.....	4	.....	6597	10617	3	3.40	86.4
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.20	716 3	29.94	760.5	74.3	23.5	77	2	1	2	6	16	2	.....	2	.....	7889	12696	4	2.03	51.6
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.23	640.8	29.92	760.0	68.0	20.0	60	.....	8	5	13	.....	1	.....	2	2	4313	6941	2	1.97	50.0
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1598?	24.08	611.6	29.89	759.2	56.3	13.5	75	1	11	5	9	2	2	.....	.....	1	3265	5254	2	5.45	138.4
Southern plateau.																												
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26.27	667.2	29.78	756.4	73.8	23.2	50	14	.....	.....	2	.....	3	4	6	2	4439	7142	2	0.08	2.0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.40	594.3	30.00	762.0	58.0	14.4	77	1	.....	.....	.....	.....	4	9	10	7	4268	6869	2	4.15	105.4
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.19	690.6	29.83	757.7	72.3	22.4	74	2	1	7	1	4	1	2	.....	13	3359	5406	3	4.02	102.1
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.11	637.8	29.98	761.5	62.3	16.8	77	.....	.....	1	6	.....	2	15	7	.....	4251	6841	4	4.75	120.6
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.26	641.6	29.94	760.5	67.7	19.8	76	1	2	1	3	.....	2	4	17	1	5157	8299	3	3.40	86.4
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.79	629.7	29.93	760.2	62.7	17.1	81	.....	1	2	9	....	3	2	1	13	3829	6162	4	4.41	112.0
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.64	752.8	29.75	755.6	82.0	27.8	79	.....	1	1	.....	11	4	3	6	5	4778	7689	4	2.23	56.6
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.27	667.2	29.90	759.4	71.0	21.7	70	.....	5	10	.....	.....	1	12	3	.....	3464	5575	4	1.85	47.0
Middle plateau.																												
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.62	599.9	30.00	762.0	52.0	11.1	72	.....	4	3	14	7	1	1	1	.....	4549	7329	4	1.17	29.7
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.64	651.2	29.87	758.7	68.4	20.2	80	7	1	1	.....	6	9	4	2	1	3210	5166	4	0.59	15.0
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.79	604.3	29.82	757.4	65.0	18.3	56	4	5	8	12	.....	.....	1	1	.....	6234	10032	4	3.52	89.4
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.61	650.5	29.88	758.9	56.9	13.8	30	.....	1	.....	16	4	.....	4	6	.....	4745	7639	1	Inap.	Inap.
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.38	619.2	29.91	759.7	59.6	15.3	68	.....	.....	.....	1	9	16	1	1	3	4281	6890	4	1.38	35.0
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.41	615.4	29.97	761.2	58.1	14.5	40	3	8	16	.....	1	1	.....	.....	2	3404	5478	1	0.04	1.0
Northern plateau.																												
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.12	688.8	29.90	759.4	59.3	15.2	53	2	1	1	.....	1	7	6	2	11	2348	3779	12	Inap.	Inap.
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.92	709.2	29.92	760.0	54.9	12.7	54	1	1	10	4	3	.....	.....	2	10	3096	4982	1	0.33	8.4
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.87	733.3	29.94	760.5	63.8	17.7	48	.....	.....	.....	5	23	2	.....	1	.....	4002	6440	1	0.12	3.0
N. Pac. coast reg'n																												
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.82	757.4	30.01	762.2	57.7	14.3	80	8	3	6	7	4	.....	.....	3	.....	6089	9799	8	1.07	27.2
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.96	761.0	30.00	762.0	53.5	11.9	93	7	1	2	6	6	.....	.....	8	1	2524	4062	4	0.42	10.7
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.97	761.2	29.99	761.7	49.1	9.5	96	.....	.....	.....	.....	30	1	.....	.....	.....	3429	5518	4	0.88	22.4
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.87	758.7	29.97	761.2	54.6	12.6	96	.....	2	.....	2	6	14	2	3	2	6423	10337	5	4.70	119.4
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	29.89	759.2	29.98	761 5	57.7	14.3	87	1	6	.....	1	6	4	1	.....	12	3699	5953	2	0.03	0.8
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.44	747.8	30.00	762.0	55.0	12.8	84	.....	3	1	.....	.....	1	.....	1	25	2008	3232	2	Inap.	Inap.
Mid. Pac. coast reg																												
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.28	743.7	29.95	760.7	53.5	11.9	89	25	.....	.....	.....	1	2	.....	2	1	12602	20280	2	0.26	6.6
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	342	104	29.51	749.5	29.84	757.9	69.2	20.7	45	5	1	4	.....	16	1	.....	.....	4	3718	5984	1	Inap.	Inap.
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.78	756.4	29.83	757.7	60.2	15.7	74	.....	.....	.....	.....	3	27	.....	.....	1	4233	6812	0	0	0
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.86	758.4	29.90	759.4	53.9	12.2	92	.....	.....	.....	8	21	.....	.....	.....	2	8790	14146	6	Inap.	Inap.
S. Pac. coast reg'n.																												
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.52	749.8	29.85	758.2	61.3	16.3	88	3	7	9	2	4	.....	2	1	3	3760	6051	2	0.21	5.3
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.81	757.2	29.85	758.2	66.9	19.4	87	14	7	3	7	.....	.....	.....	.....	.....	4031	6487	6	Inap.	Inap.
Alaska stations.																												
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.78	756.4	29.88	758.9	55.3	12.9	86	.....	2	5	13	.....	3	.....	.....	8	4881	7855	9	10.72	272.3
Sub-Series.																												
Bluefields	N. 12 00	W. 83 43	6.25 a.m.	20	6	29.92	760.0	29.86	758.4	75.1	23.9	92	.....	1	6	22	1	.....	1	.....	.....	.....	.....	.....	8.50	215.9
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.05	560.0	.....	.....	52.0	11.1	84	.....	1	1	.....	1	.....	.....	.....	28	.....	.....	6	.....	.....
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.86	758.4	79.2	26.2	83	14	.....	.....	1	.....	2	5	.....	9	.....	.....	2	12.24	310.9
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	79.8	26.6	83	.....	.....	.....	.....	1	1	24	5	.....	.....	.....	4	6.76	171.7
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.5	23.6	81	1	.....	3	5	2	7	4	3	6	.....	.....	.....	2.09	53.0
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	63.7	17.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	.....	13.21	335.5
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m	16	5	29.84	757.9	29.86	758.4	.....	.....	.....	3	4	6	2	1	1	1	.....	13	.....	.....	1	0	0

OCEAN SQUARE DATA FOR AUGUST, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5	29.86	758.4	81.7	27.6	5	7	12	3		1		3			3.7
12.5 27.5	29.89	759.2	82.0	27.8	14	4	6	1		1		5			3.9
12.5 32.5	29.90	759.4	82.0	27.8	11	1	2			1	2	14			4.3
12.5 37.5	29.92	760.0	82.9	28.3	7		2		1		2	16	1		4.1
12.5 42.5	29.93	760.2	83.2	28.4	4		1			1	10	12		3	3.4
12.5 47.5	29.94	760.5	83.3	28.5	3					2	13	12		1	3.5
12.5 52.5	29.93	760.2	83.0	28.3					1	2	23	5			3.4
17.5 22.5	29.85	758.2	80.1	26.7	8						3	20			4.1
17.5 27.5	29.89	759.2	80.7	27.1	6							25			4.8
17.5 32.5	29.95	760.7	81.1	27.3	2						1	28			4.6
17.5 37.5	29.97	761.2	81.9	27.7	1	1					10	19			4.7
17.5 42.5	29.99	761.7	82.7	28.2							17	14			4.4
17.5 47.5	29.99	761.7	83.2	28.4							24	7			4.3
17.5 52.5	29.99	761.7	83.4	28.6						3	25	3			4.3
17.5 57.5	29.98	761.5	83.9	28.8						4	26	1			4.3
22.5 22.5	29.95	760.7	78.7	25.9							10	21			4.5
22.5 27.5	29.98	761.5	79.7	20.5							5	26			4.6
22.5 32.5	30.01	762.2	80.4	26.9							6	25			4.4
22.5 37.5	30.04	763.0	81.4	27.4							17	14			4.6
22.5 42.5	30.07	761.2	82.4	28.0							22	9			4.5
22.5 47.5	30.08	761.5	83.2	28.4							30	1			4.2
22.5 52.5	30.07	763.8	83.1	28.4						3	24	3		1	4.3
22.5 57.5	30.07	763.8	83.0	28.3						5	24	1		1	4.3
22.5 62.5	30.05	763.3	82.5	28.1					2	10	17	2			3.9
22.5 67.5	30.03	762.7	82.1	27.8				1	2	19	9				3.7
22.5 72.5	29.97	761.2	82.7	28.2					5	18	8				3.6
27.5 22.5	30.06	763.5	77.4	25.2							9	22			4.2
27.5 27.5	30.08	764.0	79.1	20.2							13	18			4.2
27.5 32.5	30.11	764.8	80.6	27.0	2						15	14			4.2
27.5 37.5	30.14	765.5	81.5	27.5							17	13	1		4.0
27.5 42.5	30.16	766.1	82.1	27.8	2					1	21	7			3.6
27.5 47.5	30.17	766.3	81.7	27.6					1	5	19	6			3.6
27.5 52.5	30.17	766.3	82.1	27.8				1		10	17	1		2	3.9
27.5 57.5	30.12	765.0	81.6	27.6					6	12	11			2	4.0
27.5 62.5	30.13	765 3	81.6	27.6					11	14	5	1			4.1
27.5 67.5	30.07	763.8	82.4	28.0			1	1	11	15	2		1		3.6
27.5 72.5	30.02	762.5	82.2	27.9		1		1	11	14	2	2			3.5
27.5 77.5	29.97	761.2	83.1	28.4			1	4	4	12	7	3			4.0
32.5 12.5	30.05	763.3	75.5	24.2	12						1	18			3.9
32.5 17.5	30.10	764.5	75.3	24.1	6		1			1	2	21			3.6
32.5 22.5	30.15	765.8	77.4	25.2	3					3	2	23			3.7
32.5 27.5	30.19	766.8	79.4	26.3	4				2	1	6	18			3.5
32.5 32.5	30.21	767.3	80.7	27.1	3	1			2	2	15	8			3.9
32.5 37.5	30.22	767.6	81.3	27.4		1	2	2		4	17	3	2		3.0
32.5 42.5	30.24	768.1	81.1	27.3	3	1	1	2	3	8	9	3	1		3.1
32.5 47.5	30.24	768.1	81.0	27.2	3	1	1	5	5	9	6	1			3.2
32.5 52.5	30.23	767.8	80.3	26.8	2	1		0	8	10	2	2			3.9
32.5 57.5	30.18	766.6	79.8	26.6				7	14	7		2		1	4.3
32.5 62.5	30.13	765.3	79.8	26.6	1		1	9	14	5	1				4.5
32.5 67.5	30.07	763.8	80.3	26.8	1	2	3	10	8	2	3	1	1		4.3
32.5 72.5	30.01	762.2	80.0	26.7	1		2	12	8	2	1	4	1		3.7
32.5 77.5	29.98	761.5	78.2	25.7	4	1	4	10	3	3	3	3			3.6
37.5 12.5	30.08	764.0	74.7	23.7	13	5	1	2				10			3.9
37.5 17.5	30.16	760.1	74.0	23.3	8	4	1	3		1		14			3.6
37.5 22.5	30.23	767.8	75.3	24.1	8	5	3	1			1	12	1		3.2
37.5 27.5	30.27	768.8	78.6	25.9	5	1	8	3	2	1	7	1	3		2.6
37.5 32.5	30.26	768.6	79.0	20.1	3	1	7	8	1	3	5	2	1		3.2
37.5 37.5	30.23	767.8	79.0	26.1	3		9	7	2	5	4	1			3.6
37.5 42.5	30.21	767.3	78.0	25.6	3	3	5	7	8	3	2				4.0
37.5 47.5	30.19	766.8	77.3	25.2		5	7	11	3	3	1	1			4.1
37.5 52.5	30.17	766.3	76.3	24.6	1	4	7	11	3	3	1	1			4.3
37.5 57.5	30.11	764.8	74.7	23.7		2	7	14	5	1	1	1			4.7
37.5 62.5	30.07	763.8	74.9	23.8		2	10	11	4	1	1	2			4.8
37.5 67.5	30.02	762.5	74.7	23.7	1	5	4	10	7		1	3			4.7
37.5 72.5	29.99	761.7	74.0	23.3	2	4	1	10	1	5	1	6	1		4.3
42.5 12.5	30.10	764.5	71.6	22.0	6	9	4	2	1		1	8			3.9
42.5 17.5	30.16	766.1	70.9	21.6	4	9	7	3	1			7			4.2
42.5 22.5	30.20	767.1	72.8	22.7	4	7	9	6	1		1	2	1		3.7
42.5 27.5	30.19	766.8	74.0	23.3	2	4	14	5	5	1					4.1
42.5 32.5	30.17	766.3	74.1	23.4	3	4	10	9	3	1	1				4.3
42.5 37.5	30.14	765.5	72.8	22.7	3	1	12	11	3		1				4.6
42.5 42.5	30.11	764.8	71.1	21.7	4	5	3	13	3		1		2		4.4
42.5 47.5	30.09	764.3	68.3	20.2	3	4	4	13	2	1	2	2			4.4
42.5 52.5	30.04	763.0	67.1	19.5	2	1	8	10	5		3		2		4.0
42.5 57.5	30.00	762.0	67.7	19.8	1	4	7	5	7	1	3	2	1		4.4
42.5 62.5	29.98	761.5	66.7	19.3	5	3	5	4	6	1	2	2	2	1	3.9
42.5 67.5	29.92	760.0	63.9	17.7	4	5	6	4	4	5	1	1	1		3.7
47.5 12.5	30.06	763.5	66.3	19.1	5	9	5	7	1		1	2	1		4.3
47.5 17.5	30.07	763.8	66.5	19.2	5	6	9	8	2			1			4.8
47.5 22.5	30.06	763.5	66.8	19.3	2	7	9	10	2				1		4.9
47.5 27.5	30.04	763.0	66.1	18.9	1	9	6	13	1	1					4.9
47.5 32.5	30.02	762.5	66.7	19.3	1	8	9	9	2	2					5.0
47.5 37.5	29.99	761.7	65.1	18.4	1	8	8	7	5		2				5.3
47.5 42.5	29.97	761.2	60.3	15.7	1	6	7	13	2			2			4 7
47.5 47.5	29.93	760.2	55.9	13.3	1	5	4	12	5			2			4.3
52.5 12.5	29.94	760.5	60.6	15.9	2	5	11	9	4						4.8
52.5 17.5	29.88	758.9	60.0	15.6	2	4	12	10	3						5.3
52.5 22.5	29.88	758.9	60.3	15.7	1	6	9	10	3	1		1			5.2
52.5 27.5	29.85	758.2	59.2	15.1		7	8	12		2		2			5.6
52.5 32.5	29.83	757.7	58.3	14.6		10	11	7	2		1				5.3
52.5 37.5	29.83	757.7	57.5	14.2	1	7	10	9	4						5.7
52.5 42.5	29.78	756.4	55.1	12.8	1	7	3	7	2	2				9	5.3
52.5 47.5	29.76	755.9	51.2	10.7	2	7	5	1	3	1		1		11	5.1
57.5 12.5	29.77	736.1	56.1	13.4	1	5	6	11	4	2		1		1	4.9
57.5 17.5	29.76	755.9	55.1	12.8	2	6	5	9	5	1				3	5.3
57.5 22.5	29.74	755.4	55.1	12.8	4	6	6	5	2	1		1		6	5.2
57.5 27.5	29.70	751.4	54.2	12.3	2	8	5	3		4		1		8	5.4
57.5 32.5	29.68	753.9				4	2	4	2	2	2			15	5.2
57.5 37.5					1	1	3	2	2	2		2		18	

Summary of observations taken at Russian stations, March to July, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations.																Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.											
						Actual.		Reduced.					Directions.									Total Movement.			
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
MARCH, 1886.	° ′	° ′																							
Archangel	N. 64 33	E. 40 32	2.42 p m	16	5	29.83	757.7	29.89	759.2	26.6	— 3 0	77	.....	3	7	7	10	2	2	.....	.....	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.12 p.m	69	21	30.21	767.3	30.14	765.5	34.7	1.5	58	2	6	4	.....	.....	4	7	7	1	.....	.....	7	0.30	7.6
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.11	764.8	30.06	763.5	40.1	4.5	71	11	2	.....	4	8	1	2	.....	3	.....	.....	5	0.26	6.6
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.65	753.1	30.19	766.8	14.9	— 9.5	75	.....	1	4	9	2	.....	.....	5	10	.....	.....	7	1.13	28.7
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.93	760.2	30.22	767.6	28.0	— 2.2	.....	1	.....	2	14	4	2	5	3	.....	.....	.....	4	0.48	12.2
Ekaterinburg	N 48 31	E. 32 17	2.09 p.m.	407	124	29.65	753.1	30.13	765.3	32.2	0.1	82	4	4	2	.....	2	4	7	7	1	.....	.....	9	1.23	31.2
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.01	736.8	30.06	763.5	23.5	— 4.7	59	3	3	7	6	2	6	1	.....	3	.....	.....	7	0.08	2.0
Irkutsk	N. 52 17	E 104 16	6.57 p.m.	1489	454	28.60	726.4	30.38	771.6	16.9	— 8.4	68	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	0.28	7.1
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148?	45?	29.81	757.2	29.98	761.5	32.2	0.1	69	4	1	11	2	.....	1	4	7	1	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m	230	70	29.88	758.9	30.20	767.1	25.0	— 3.9	67	2	3	2	11	5	3	3	2	.....	.....	.....	6	0.03	0.8
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.82	757.4	29.93	760.2	29.7	— 1.3	70	2	1	13	10	1	2	.....	1	1	.....	.....	8	0.25	6.3
Kertch	N. 45 21	E. 36 29	2.26 p.m	20?	6?	29.96	761 od	29.98d	761.5	d39.7	4.3	69g	4	2d	2	.....	3	1	7	5	3	.....	.....	8	0.06	1.5
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.49	749.0	30.18	766.6	30.0	— 1.1	72	9	2	1	2	4	4	1	8	.....	.....	.....	7	2.27	57.7
Korostichev	N. 50 19	E. 29 03	2.05 p m.	?	?	29.46	748.3	.....	.....	32.9	0.5	72	7	3	1	1	4	3	2	5	5	.....	.....	6	1.27	32.3
Koslov	N. 52 53	E. 40 31	2.42 p.m	505	154	29.65	753.1	30.19	766.8	24.3	— 4.3	84	6	2	4	4	3	4	2	3	3	.....	.....	6	.....	.....
Lgov	N. 51 38	E. 35 17	2.21 p m.	518	158	29.61	752.1	30.24	768.1	27.0	— 2.8	78	2	1	2	4	.....	1	9	8	4	.....	.....	7	0.61	15.5
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	30.15	765 8	30.20	767.1	31.8	— 0.1	75	2	1	4	5	10	2	5	2	.....	.....	.....	5	0.91	23.1
Lugan	N. 48 35	E. 39 20	2.37 p.m	164	50	29.98	761.5	30.19	766.8	37.2	2.9	67	.....	1	1	4	2	2	13	8	....	.....	.....	7	1.13	28.7
Moscow	N. 55 46	E- 37 40	2.31 p.m.	446	136	29.69	754 1	30.24	768.1	26.8	— 2.9	69	7	2	8	2	4	3	1	1	3	.....	.....	5	0.79	20.1
Nerchinsk	N. 51 19	E-119 37	7.58 p m.	2165?	660?	27.71	703.8	30.27	768.8	10.4	—12.0	.....	.....	4	3	1	.....	1	.....	.....	16	.....	.....	2	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m	66	20	29.98	761.5	30.04	763.0	36.1	2.3	79	6	1	1	.....	2	4	5	8	4	.....	.....	7	1.68	42.7
Nikolievsk	N. 53 08	E.140 45	9.23 p m.	72	22	29.74	755.4	29.85	758.2	9.1	—12.7	.....	1	2	10	1	.....	.....	1	1	14	.....	.....	4	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.70	754 4	30.31	769.9	28.6	— 1.9	54	4	6	3	6	4	4	2	1	1	.....	.....	7	0.35	8.9
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.63	752 6	30.06	763.5	24.6	— 4.1	62	2	5	2	15	4	3	.....	.....	.....	.....	.....	6	0.46	11.7
PetroAlexandrov'k	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.72	754.9	30.06	763.5	48.0	8.9	.....	6	4	3	.....	.....	2	4	10	2	.....	.....	7	0.77	19.6
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.82	757.4	30.09	764.3	29.3	— 1.5	63	1	4	13	9	.....	1	1	2	.....	.....	.....	5	0.88	22.4
Pinsk	N. 52 07	E. 26 06	1.44 p m.	459	140?	29.66	753.4	30.19	766.8	32.7	0.4	60	5	3	1	.....	4	4	3	10	1	.....	.....	5	0.46	11.7
Poti	N. 42 09	E. 41 37	2.46 p m.	26	8	29.92	760.0	29.95	760.7	54.9	12.7	92	.....	4	.....	12	2	.....	9	.....	4	.....	.....	5	2.67	67.8
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	30.13	765 3	30.19	766.8	27.3	— 2.6	72	1	4	14	3	6	1	.....	2	.....	.....	.....	5	0.24	6.1
Samarkand	N. 39 39	E. 66 57	4.28 p m.	2378?	725?	27.65	702.3	30.24	768.1	52.0	11.1	.....	.....	1	1	2	1	3	.....	4	19	.....	.....	6	2.04	51.8
Sevastopol	N. 44 39	E. 33 31	2.14 p.m.	197	60	29.78	756.4	30.00	762.0	43.9	6.6	76	7	3	4	5	.....	1	1	7	3	.....	.....	7	1.53	38.9
Staroi Bykhov	N. 53 31	E. 30 16	2.01 p.m.	512?	156?	29.60	751.8	30.19	766.8	32.0	0.0	57	4	.....	1	2	5	6	4	8	1	.....	.....	6	1.06	26.9
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.34	719.8	30.06	763.5	52.2	11.2	61	.....	11	7	3	1	1	.....	4	4	.....	.....	6	1.31	33.3
Tiflis	N. 41 43	E. 44 47	2.59 p.m	1342	409	28.60	726.4	30.06	763.5	52.0	11.1	53	4	7	.....	.....	2	11	6	.....	1	.....	.....	7	0.85	21.6
Trotsk savsk	N. 50 22	E.106 27	7.06 p m.	2529?	771?	27.20	690.9	30.11	764.8	20.5	— 6.4	.....	.....	9	1	2	1	.....	.....	.....	18	.....	.....	3	0	0
Warsaw	N. 52 13	E. 21 02	1.24 p m.	390	119	29.69	751.1	30.16	766.1	30.9	— 0.6	76	2	.....	4	.....	4	5	3	2	11	.....	.....	5	0.88	22.4
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.41	747.0	30.14	765.5	24.3	— 4.3	.....	2	5	9	5	4	1	1	1	3	.....	.....	5	0.26	6.6
Yeni eisk	N. 58 27	E. 92 06	6.08 p.m.	276?	84?	29.87	758.7	30.22	767.6	18.1	— 7.7	.....	.....	2	1	.....	3	9	5	....	11	.....	.....	7	0.53	13.5
APRIL, 1886.																									
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.95	760.7	30.02	762.5	35.4	1.9	73	2	4	6	2	10	2	3	1	.....	.....	.....	7	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.16	766.1	30.09	764.3	56.1	13.4	39	4	2	5	.....	4	4	5	5	1	.....	.....	5	0.02	0.5
Ashurada	N. 36 54	E. 53 55	3.44 p.m.	76	23	30.20	767.1	30.14	765.5	58.6	14.8	76	6	15	5	1	.....	.....	.....	.....	3	.....	.....	7	1.24	31.5
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.11	764.8	30.06	763.5	53.4	11.9	72	11	2	.....	.....	11	2	2	.....	2	.....	.....	4	0.44	11.2
Barnaul	N. 53 20	E. 83 47	5.35 p m.	459?	140?	29.65	753.1	30.17	766.3	32.7	0.4	73	4	4	3	13	1	.....	.....	2	3	.....	.....	7	1.29	32.8
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.83	757.7	30.11	764.8	49.5	9.7	52	2	3	7	4	8	2	2	2	.....	.....	.....	6	1.04	26.4
Ellsavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.72	754.9	30.16	766.1	50.7	13.7	40	2	3	1	1	5	2	9	6	1	.....	.....	6	0.01	0.2
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.06	738.1	30.09	764.3	41.5	5.3	42	4	4	6	9	1	2	.....	1	3	.....	.....	7	0.22	5.6
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.50	723.9	30.19	766.8	36.5	2.5	60	1	10	.....	3	1	4	.....	.....	11	.....	.....	6	0.50	12.7
Kasalinsk	N. 45 46	E. 62 07	4 08 p.m.	148?	45?	29.81	757.2	29.97	761.2	54.7	12.6	43a	.....	7a	3	2	3	3	7	5	.....	.....	5a	0.96	24.4
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.91	759.7	30.20	767.1	46.2	7.9	47	3	6	3	6	4	3	3	2	.....	.....	.....	5	0.04	1.0
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.93	760.2	30.03	762.7	38.1	3.4	64	1	6	5	7	2	.....	5	2	2	.....	.....	7	0.64	16.3
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.07	763.8	30.09	764.3	51.6	10.9	60	4	1	1	1	2	4	11	2	.....	.....	.....	5	.....	.....
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.54	750.3	30.19	766.8	54.5	12.5	61	4	4	2	2	3	10	3	2	.....	.....	.....	5	0.11	2.8
Korostichev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.53	750.0	.....	.....	54.9	12.7	47	3	5	.....	1	3	7	4	3	4	.....	.....	6	0.17	4.3
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.63	752.6	30.20	767.1	47.8	8.8	66	7	2	4	4	2	2	2	5	2	.....	.....	5	.....	.....
Lgov	N. 51 38	E. 35 17	2.21 p.m.	518	158	29.62	752.3	30.21	767.3	51.3	10.7	56	2	2	1	4	4	2	4	7	4	.....	.....	6	0.41	10.4
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	30.04	763.0	30.09	764.3	47.3	8.5	66	1	1	3	6	9	4	5	1	.....	.....	.....	5	1.26	32.0
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.98	761.5	30.15	765.8	55.4	13.0	46	1	2	3	2	1	2	4	15	.....	.....	.....	6	0.98	24.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.66	753.4	30.18	766.6	49.1	9.5	49	1	5	4	1	4	7	1	1	6	.....	.....	4	0.51	13.0
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.62	701.5	30.03	762.7	38.1	3.4	45	2	1	2	5	.....	.....	.....	.....	20	.....	.....	4	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	30.07	763.8	30.13	765.3	55.9	13.3	47	5	.....	.....	.....	5	1	8	7	4	.....	.....	4	.....	.....
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	30.69	754.1	29.79	756.7	25.9	— 3.4	79	2	.....	6	.....	.....	.....	9	.....	11	.....	.....	4c	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.72	754.9	30.27	768.8	45.3	7.4	44	6	7	.....	4	5	3	1	4	.....	.....	.....	5	0.59	15.0
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.67	753.6	30.05	763.3	42.8	6.0	47	4	2	8	12	2	.....	.....	.....	2	.....	.....	6	0.26	6.6
PetroAlexandrov'k	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.69	754.1	30.02	762.5	66.2	19.0	.....	1	1	3	7	1	2	4	9	2	.....	.....	8	0.39	9.9
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.84	757.9	30.12	765.0	42.6	5.9	56	1	5	1	11	3	4	2	3	.....	.....	.....	6	1.49	37.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.65	753.1	30.17	766.3	52.7	11.5	54	2	2	1	1	4	9	7	1	3	.....	.....	4	0.02	0.5
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	30.01	762.2	30.03	762.7	55.2	12.9	88	....	9	.....	12	1	.....	2	.....	6	.....	.....	3	2.43	61.7
St. Petersburg	N. 59 56	E. 30 16	2.01 p m.	20	6	30.05	763.3	30.11	764.8	45.9	7.7	57	3	5	7	4	4	3	.....	3	1	.....	.....	6	0.72	18.3
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2378?	725?	27.56	700.0	30.08	764.0	61.5	16.4	.....	.....	.....	.....	.....	.....	a	2	1	26	.....	.....	6	.....	.....
Sevastopol	N. 44 39	E. 33 31	2.14 p.m.	197	60	29.87	758.7	30.09	764.3	58.5	14.7	49	2	4	8	10	3	.....	.....	3	.....	.....	.....	3	0.17	4.3
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28 36	720.3	30.05	763.3	61.7	16.5	51	3	6	9	1	2	1	1	1	6	.....	.....	7	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.57	725.7	30.00	762.0	57.0	13.9	48	5	7	1	....	6	6	4	.....	1	.....	.....	6	4.09	103.9
Trotskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.33	694.2	30.12	765.0	38.8	3.8	48	1	13	1	1	4	.....	.....	.....	10	.....	.....	4	0.27	6.9
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.61	752.1	30.06	763.5	55.0	12.8	50	1	1	1	6	7	12	1	1	.....	.....	.....	4	0.47	11.9
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.45	748.0	30.13	765.3	42.3	5.7	79a	.....	3	11	5	1	4	.....	2	4	.....	.....	4	0.24	6.1
Yeniseisk	N. 58 27	E. 92 09	6.08 p.m.	276?	84?	29.80	756.9	30.13	765.3	37.9	3.3	.....	1	5	2	7	6	1	3	.....	5	.....	.....	6	0.31	7.9
MAY, 1886.																									
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	30.28	769.1	30.35	770.9	50.4	10.2	61	1	12	6	1	3	.....	5	2	1	.....	.....	6	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.02	762.5	29.95	760.7	73.2	22.9	39	7	2	1	5	3	6	4	3	.....	.....	.....	5	0.21	5.3
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.01	762.2	29.96	761.0	69.3	20.7	65	10	2	.....	.....	9	4	3	.....	3	.....	.....	2	.....	.....
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.41	747.0	29.93	760.2	53.6	12.0	53	4	5	2	10	4	.....	.....	4	2	.....	.....	7	2.91	73.9
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.71	754.6	29.96	761.0	58.3	14.6	52	2	3	4	10	4	.....	4	4	.....	.....	.....	8	1.80	45.7
Ellsavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.53	750.0	29.98	761.5	69.6	20.9	36	3	4	4	6	3	5	2	3	1	.....	.....	6	0.99	25.1
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	28.91	734.3	29.92	760.0	50.7	10.4	53	3	7	4	5	1	3	1	5	2	.....	.....	8	1.26	32.0
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.37	720.6	30.01	762.2	49.8	9.9	51	1	8	3	.....	6	6	1	.....	6	.....	.....	6	1.32	33.5
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148?	45?	29.73	752.6	29.78	756.4	69.3	20.7	m34	m1	1	2	5	.....	3	2	3	.....	.....	.....	m6	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.61	752.1	29.89	759.2	60.4	15.8	54	2	4	7	5	3	5	2	3	.....	.....	.....	7	1.02	25.9
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.88	758.9	29.99	761.7	47.1	8.4	65	2	1	4	2	2	1	9	8	2	.....	.....	7	1.73	43.9
Kertch	N. 45 21	E. 36 29	2.25 p.m.	20?	6?	29.90	759.4	29.92	760.0	66.4	19.1	63	3	4	1	2	6	4	3	6	1	.....	.....	6	0.35	8.9
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.34	745.2	29.98	761.5	67.3	19.6	55	6	3	4	4	4	4	1	5	.....	.....	.....	5	1.40	37.1
Korostichev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.34	745.2	.....	.....	67.6	19.8	49	4	9	1	7	5	1	1	2	.....	.....	.....	5	1.40	35.6
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.37	746.0	29.86	758.4	64.9	18.3	57	4	5	8	2	2	3	2	1	4	.....	.....	6	.....	.....
Lgov	N. 51 38	E. 35 17	2.21 p.m.	518	158	29.41	747.0	29.98	761.5	65.7	18.7	52	5	2	6	9	4	1	1	2	1	.....	.....	6	1.45	36.8
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.97	761.2	30.02	762.5	51.8	11.0	68	.....	11	5	8	3	2	1	1	.....	.....	.....	4	0.33	8.4
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.83	757.7	30.00	762.0	74.1	23.4	39	2	2	7	9	.....	1	6	4	.....	.....	.....	5	2.25	57.1

Summary of observations taken at Russian stations, March to July, 1886—Continued.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
MAY, 1886—*Con.*	° ′	° ′																								
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.45	748.0	29.97	761.2	57.6	14 2	57	4	5	6	1	4	3	3	4	1			6	1.94	49.3
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.64	702.0	30.08	764.0	52.3	11.3	37	1	1	3	3				2	21			4		
Nik laiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	29.90	759.4	29.97	761.2	68.9	20.5	47	8			4	6		3	3	7			5	0.97	24.6
Nikolaievsk	E.140 45		9.23 p.m.	72	22	29.63	752.6	29.73	755.1	36.7	2.6	78		3	3	1		1	7	4	9			5		
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.54	750.3	30.08	764.0	55.4	13.0	38	3	8	4	1	1	3	1	8	2			7	2.14	54.4
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.47	748.5	29.85	758.2	53.1	11.7	55	2	5	2	8	1	4	1	5	3			7	1.92	48.8
PetroAlexandrov'k	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.61	752.1	29.93	760.2	81.0	27.2		4	8	3	4		1	2	6	3			5	0	0
Petrozavod k	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.72	754.9	30.00	762.0	52.7	11.5	57	1	6	4	2	2	10	4	1	1			6	1.88	47.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.45	748.0	29.94	760.5	63.5	17.5	57	3	4	3	6	3	5	5	1	1			6	3.68	93.5
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	29.92	760.0	29.94	760.5	69.1	20.6	86		11	2	12			5		1			5	1.55	39.4
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.92	760.0	29.98	761.5	54.9	12.7	56		4	13	1	4	3	2	4				7	2.35	59.7
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.53	699.2	30.00	762.0	69.3	20.7			1	4				3		21			4		
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.73	755.1	29.94	760.5	67.3	19.6	59	3	4	4	11	2	4		3				5	3.37	85.6
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.30	718.8	29.95	760.7	a72.3	a22.4	a48	a2	8	6	3	2			1	8			a6		
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.56	725.4	29.95	760.7	72.7	22.6	44	2	7		1	4	12	4	1				6	2.24	56.9
Trotskosavsk	N. 50 22	E.106 27	7.06 p m.	2529?	771?	27.25	692.1	29.97	761.2	53.8	12.1	46	4	5			3	1		3	15			5	1.58	40.1
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.53	750.0	29.97	761.2	03.1	17.3	52	4	2	2	6	6	5	4	1	1			6	1.57	39.9
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.24	742.7	29.90	759.4	52.2	11.2	67	3	7	6	4	2	2	4	2	1			7	1.61	40.9
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	276?	84?	29.67	753.6	29.98	761.5	48.7	9.3	59	6	4	3	6	3	6	1		2			8	1.00	25.4
JUNE, 1886.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.81	757.2	29.88	758.9	58.8	14.9	50	3	6	3	3	4	2	1	7	1			5		
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	29.80	756.9	29.73	755.1	81.3	27.4	38	1	1	8	3	2	8	4	3				5	0.53	13.5
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	29.82	757.4	29.77	756.1	77.7	25.4	58	11				5	7	6	1				2		
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.28	743.7	29.78	756.4	66.2	19.0	43	2	6	3	8	3		1	5	2			6	0.89	22.6
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.60	751.8	29.84	757.9	70.2	21.2	45	1		6	3	3	1	7	8	1			7	2.10	53.3
Ekate inburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	28.73	729.7	29.72	754.9	58.8	14.9	59	4	3	5	5	2	3	1	7				7	3.41	86.6
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.34	745.2	29.79	756.7	74.5	23.6	48	3	5	4	4	4	5	1	2	2			7	3.96	100.6
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.30	718.8	29.92	760.0	59.5	15.3	51		4	5	3	4	5			9			5	1.04	26.4
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.44	747.8	29.59	751.6	82.9	28.3	33	1	6	4	10		3	2	4				5		
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.47	748.5	29.74	755.4	63.3	17.4	60	10	6	1	3	5	1	1	3				8	0.14	3.6
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.84	757.9	29.95	760 7	55.0	12.8	62	2		4	2	1	1	8	11	1			5	0.84	21.3
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.75	755.6	29.77	756.1	73.2	22.9	62	2	6	1	4	6	5	3	1	1			6	0.27	6.9
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	283	29.15	740.4	29.79	756.7	68.9	20.5	70	6	10	1	3	6		1	2	1			7	3.29	83.9
Korostichev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.19	741 4			70.5	21.4	60	8	7	2	2	5	5		1				7	2.75	69.8
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	1054	29.19	741.4	29.73	755 1	73.6	23.1	57	4	2	3	3	2	4	1	9	2			6		
Lgov	N. 51 38	E. 35 17	2.21 p.m.	518	158	29.22	742.2	29.78	756.4	74.5	23.6	52	1	2	10	2		5	6	3	1			6	1.37	34.8
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.82	757.4	29.87	758.7	59.2	15.1	70		6	11	5	1	1	4	2				6	3.58	90.9
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.60	751.8	29.78	756.4	79.7	26.5	37	2	1	9	6	4	5	3					6	0.39	9.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.31	744.5	29.81	757.2	65.3	18.5	68a	6a	7	1	1	1	2	3	5	3			6a	2.32	58.9
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	29.54	750.3	29.86	758.4	61.5	16.4	46	3	2	2	2	1	3		1	16			6		
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	29.69	754.1	29.77	756.1	79.2	26.2	54	7	3		1	11		4	1	3			5	3.37	85.6
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.55	750.6	29.65	753.1	53.4	11.9	82	4	3	1			1	12	1	7			7		
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.45	748.0	29.92	760.0	63.9	17.7	44b	4	6		2		2	5	11				6	0.87	22.1
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.35	745.5	29.72	754.9	58.5	14.7	58	3	4	7	3	2		4	6	1			8	5.48	139.2
PetroAlexandrov'k	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.43	747.5	29.74	755.4	88.5	31.4		1	4	10	2	1	4	2	5	1			4	0.12	3.0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.65	753.1	29.93	760.2	63.0	17.2	50	1	3	3	1	3	8	8	3				7	1.48	37.6
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.32	741.7	29.81	757.2	67.3	19.6	63	5	5	4		3	3	5	5				7	4.19	106.4
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	29.80	756.9	29.82	757.4	74.8	23.8	72		13	1	11	1		3		1			4	3.66	93.0
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.81	757.2	29.87	758.7	66.4	19.1	46	2	1	10	2		4	3	8				4	2.99	75.9
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.36	694.9	29.76	755.9	83.5	28.6			1	1			1	2	1	24			1		
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.61	752.1	29.82	757.4	75.0	23.9	59		9	6	9	5	1						4	2.10	53.3
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.12	714.2	29.71	754.6	87.3	30.7	33	8	5	4	1	3		1		8			4		
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.42	721.9	29.79	756.7	79.7	26.5	39		13		1	4	7	4	1				5	3.63	92.2
Trotskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.22	691.4	29.88	758.9	65.7	18.7	45	6	8	1		5	1			9			5	0.56	14.2
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.14	740.1	29.79	756.7	62.6	17.0	50	7	3	4	1	2	1	3	4	5			6	1.10	27.9
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.39	746 5	29.83	757.7	66.4	19.1	64	3	11	2	4	2	1	3	3	1			7	2.38	60.5
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	276?	84?	29.54	750.3	29.86	758.4	65.1	18 4	53	1	6	2	6	4	2	2	2	5			5	3.36	85.3
JULY, 1886.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.69	754.1	29.76	755.9	70.7	21.5	60		10	3	3	3	5	2	2	3			7		
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	29.82	757.4	29.77	756.1	80.4	26.9	57	16				8	3		3	1			1		
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.17	740.9	29.66	753.4	73.0	22.8	58	5	5		1	3	5	1	7	4			8	3.70	94.0
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.53	750.0	29.77	756.1	70.2	21.2	61	2	3	7	4	9	2	1	3				8	5.80	147.3
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	28.73	729.7	29.70	754.4	67.8	19.9	71	4	2	4	4		3	6	7	1			9	2.53	64.3
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.40	746.7	29.85	758.2	73.9	23.3	56	3	8	8	7	1	1		2	1			7	1.75	44.4
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.18	715.8	29.77	756.1	65 5	18.6	66		4	8	2	5	4			8			6	4.11	104.4
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.37	746.0	29.52	749 8	89.2	31.8	29		8	11	5	1	3	2		1			2		
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.44	747.8	29.70	754.4	72.7	22.6	57	4	4	4	7	2	1	3	4	2			7	1.27	32.3
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.65	753.1	29.76	755.9	61.2	16.2	53	1		2	4		2	14	5	3			7	2.07	52.6
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	29.44	747.8	29.46	748.3	71.2	21.8	58	5	2	4		12	4		1	2			5	1.01	25.6
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	283	29.21	741.9	29.85	758.2	70.3	21.2	68	4	10	1	4	3	3	1	2	1			6	5.14	130.6
Korostishev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.25	742.9			71.2	21.8	58	5	11		8	3			3	1			7	4.83	122.7
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	1054	29.19	741.4	29.73	755.1	74.7	23.7	58	5	3	7	1	3	2	1	3	4			0		
Lgov	N. 51 38	E. 35 17	2 21 p.m.	518	158	29.23	742.4	29.79	756.7	72.1	22.3	58	3	3	10	8		2	1	3	1			7	1.22	31.0
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.81	757.2	29.86	758.4	63.7	17.6	74	1	6	9	9	5		1					7	1.87	47.5
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.59	751.6	29.75	755.6	82.6	28.1	32	1	3	15	5	1	2	2	2				6	1.58	40.1
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.26	743 2	29.76	755.9	71.8	22.1	57	4	10	1	3	1	6	3	1	2			7	1.96	49.8
Nerchinsk	N. 51 19	E.119 37	7.58 p.m.	2165?	660?	27.50	698.5	29.78	756.4	66.2	19.0	70	4	1		1	2	4	2	4	13			7		
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	29.76	755.9	29.84	757.9	79.2	26.2	54	12	4		3	6	1	2	1	2			5	2.02	51.3
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.56	750.8	29.66	753.4	61.9	16.6	83	2					1	12	5	8			5		
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.39	746.5	29.93	760.2	72.9	22.7	47	3	4	1	2		4	7	9	1			8	0.90	22.9
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.34	745.2	29.72	754.9	69.8	21.0	64	2	5	6	2		5	4	5	2			9	1.23	31.2
PetroAlexandrov'k	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.35	745.5	29.66	753.4	92.3	33.5		7	4	12	1				7				3		
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.55	750.6	29.82	757.4	68.9	20.5	60	2	2	6	4	1	8	6		2			6	2.00	50.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.37	746.0	29.86	758.4	71.8	22.1	57	3	10	6	4	3	2	1	1	1			6	2.82	71.6
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	29.83	757.7	29.85	758.2	75.0	23.9	77		10	8	10	1		1		1			5	7.34	186.4
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.72	754.9	29.78	756.4	70.0	21.1	59	4	3	8	4	1	7	2	2				6	3.15	80.0
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.27	692.6	29.64	752.8	87.3	30.7				2				6		23			1		
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	80	29.70	754.4	29.91	759.7	76.8	24.9	58		10	10	9		2						3	1.91	48.5
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.02	711.7	29.60	751.8	94.5	34.7	30	1	6	3		3		1		17			2		
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.43	722.1	29.80	756.9	81.7	27.6	39	3	13	2	2	2	7	1	1				4	2.28	57.9
Trotskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.09	688.1	29.72	754.9	68.0	20.0	66	9	8			3		1		8			7	4.12	104.0
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.10	739.1	29.74	755.4	71.2	21.8	58	7	7	3			3	4	5	2			7	1.97	50.0
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.47	748.5	29.91	759.7	70.0	21.1	57	2	13	8	2	3	2			1			7	1.21	30.7
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	276?	84?	29.53	750.0	29.85	758.2	77.4	25.2	55	2	7	3	4	5	1	6	2	1			7	0.63	16.0

REVIEW.

INTERNATIONAL METEOROLOGY FOR AUGUST, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of August, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure is located over the northern portion of British India, with barometric minima ranging to 29.43 (747.8) at Lahore. Over the north Atlantic Ocean an area of low mean pressure is indicated by the isobar of 29.70 (754.4), which is traced from southeast of Iceland to south of Greenland in the vicinity of the fifty-sixth parallel. Two areas of relatively low mean pressure appear, one occupying the northern portion of the Sea of Okhotsk, with mean reading 29.73 (755.1) at Nikolaevsk, and the other extending along the Pacific slope in North America from the thirty-eighth parallel southward over the Gulf of California.

The area of highest mean pressure is charted over the north Atlantic Ocean, with barometric maxima ranging to 30.27 (768.8) in the vicinity of the Azores. Two areas of relatively high mean pressure bounded by the isobar of 30.00 (762.0) appear, both of which are located over the North American continent; one extends from New England southwestward to the Gulf States, and the other embraces a limited area on the Pacific coast between the forty-second and forty-seventh parallels.

Over the North American continent the mean barometric pressure ranges from 29.75 (755.6) at Yuma, Ariz., to 30.03 (762.7) at Nashville, Tenn., and to 30.01 (762.2) at Fort Canby, Wash. In the British Possessions in North America north of the fiftieth parallel the mean pressure generally ranges below 29.90 (759.4). Over the north Atlantic Ocean the barometric gradient is 0.57 of an inch between the Azores and the fifty-sixth parallel. Over the continent of Europe the mean pressure ranges from 30.10 (764.5) on the coasts of Spain and France to 29.62 (752.3) in east-central Russia. Over Asia the mean pressure ranges from 29.44 (747.8) in British India to above 29.90 (759.4) along the east coast of Hondo, Japanese Islands, and in the upper Lena valley.

In the United States the mean pressure for August, when compared with that of the preceding month, has increased .01 to .09 of an inch in all districts, except along the Pacific coast and in southern Florida, where a deficiency of .01 to .04 of an inch occurs. In Canada slight changes in mean pressure have occurred in the Saint Lawrence Valley and the Maritime Provinces; in the middle Saskatchewan valley there has been an increase of .05 to .06 of an inch, while on the Pacific coast of British America the mean pressure is somewhat lower than in July. Over the north Atlantic Ocean the mean pressure has decreased about .10 of an inch over mid-ocean in the vicinity of the sixtieth parallel, while within the area of permanent mean high pressure over the Azores the barometric maximum is about .10 of an inch lower than in July. Over the British Isles there has been a slight increase in mean pressure; over the southern half of Scandinavia there has been an increase of about .10 of an inch; over France the increase is slight; while in Spain it averages about .10 of an inch; in Germany and Austro-Hungary slight changes are noted; in Italy there has been a decrease of about .05 of an inch. Over British India the mean pressure averages about .10 of an inch higher than in July; over the Philippine Islands it is .01 of an inch lower; over Formosa the decrease amounts to .06 of an inch, while over the Japanese Islands the mean pressure is about .05 of an inch higher than in July.

In the United States the departures in the mean pressure were, in almost every instance, below the normal, the mean values being above the normal but at three stations, viz., Fort Apache, Ariz., Deadwood, Dak., and Cedar Keys, Fla., where they amounted to .02, .01, and .01 of an inch, respectively. The largest departures above the normal occurred in the Missouri Valley, where they varied from .06 to .09 of an inch. Over all other portions of the country the deficiencies were slight, ranging from .01 to .08 of an inch. In Canada the average pressure during the month was below the normal obtained from twelve years at all stations in Ontario, Quebec, and the Maritime Provinces. The defect was greatest at the mouth of the Saint Lawrence River, where it was nearly .05 of an inch. Over the British Isles the mean pressure averaged above the normal; over the continent of Europe the mean pressure was generally above the normal by amounts ranging from .02 of an inch over Italy to .09 of an inch over Denmark, except over Scandinavia and Russia, where the defect averaged .02 and .05 of an inch, respectively. Over British India the mean pressure was slightly above, while at Zi-Ka-Wei, China, it was .04 of an inch below the normal for nine years.

In the United States the mean temperature was below the normal in all districts lying east of the Mississippi River, and in Louisiana and eastern Texas. From the Mississippi River westward to the Pacific Ocean the month was warmer than the average August. In Canada the mean temperature was below the normal of twelve years by from 1° to 2° in Ontario, by 0°.7 to 1°.6 in Quebec, and by from 0°.5 to 1°.1 in New Brunswick and Nova Scotia. At Winnipeg it was 0°.8 above the average for fifteen years, and at Victoria, B. C., 1°.5 above the average for six years. Over the British Isles the mean temperature averaged slightly above the normal for nine years. Over the continent of Europe the mean temperature was above the normal, except in Italy, Spain, and Norway, by amounts ranging from 1°.9 in Germany to 3°.3 in Denmark. In British India the mean temperature was normal. At Zi-Ka-Wei, China, it was above the normal.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	93.5	34.2	Hobart Town, Tasmania	46.4	8.0
Tashkend, Toorkistan, Asia	92.1	33.4	Minnedosa, British America	47.7	8.7
Athens, Greece	90.9	32.7	Port Angeles, Washington Ter.	49.1	9.5
Beirut, Turkey in Asia	86.7	30.4	Sitka, Alaska	55.3	12.9
Nassau, Bahamas	84.7	29.3	Nerchinsk, Asia	55.9	13.3
Yuma, Arizona	82.0	27.8	Gjesver, Norway	58.1	14.5

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of August, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Aug. mean of 9 (1877–85) years.	Aug., 1886.	Departure.	Aug. mean of 9 (1877–85) years.	Aug., 1886.	Departure.
				°	°	°
Archangel, Russia	29.80	29.73	— 0.07	61.7	63.0	+ 1.3
Athens, Greece	29.88	29.85	— 0.03	87.3	90.9	+ 3.6
Beirut, Turkey in Asia	.....	29.71	.....	88.0	86.7	— 1.3
Barnaul, Siberia	29.75	29.75	normal.	67.6	68.5	+ 0.9
Bridgetown, Barbadoes	29.90	29.86	— 0.04	83.8	84.5	+ 0.7
Ekaterinburg, Russia	29.76	29.66	— 0.10	64.4	64.2	— 0.2
Fort Napier, Natal, S. Africa	29.97	29.96	— 0.01	68.5	69.7	+ 1.2
Funchal, Madeira Islands	30.11	30.09	— 0.02	75.4	75.2	— 0.2
Gibraltar	.....	.....	.....	78.9	77.2	— 1.7
Havana, Cuba, W. I.	29.95	29.92	— 0.03	79.8	77.4	— 2.4
Malta, Mediterranean Sea*	29.95	29.92	— 0.03	82.6	79.8	— 2.8
Melbourne, New South Wales	30.01	29.82	— 0.19	50.1	49.6	— 0.5
Mauritius, Indian Ocean	30.14	30.13	— 0.01	71.8	71.7	— 0.1
Mexico, Mexico	.....	30.09	.....	.....	55.2	.....
Nassau, Bahamas, W. I.	29.99	29.95	— 0.04	84.3	84.7	+ 0.4
Nikolaevsk-on-the-Amoor, Asia	.....	29.73	.....	.....	56.3	.....
Paramaribo, D. Guiana, S. A.	29.94	29.93	— 0.01	80.2	79.8	— 0.4
Ponta Delgada, Azores	30.17	30.26	+ 0.09	75.8	78.3	+ 2.5
Swanbister, Orkneys	29.86	29.82	— 0.04	55.8	56.3	+ 0.5
San Juan de Puerto Rico, W. I.	29.95	29.93	— 0.02	81.6	81.1	— 0.5
Tashkend, Toorkistan, Asia	29.68	29.60	— 0.08	86.5	92.1	+ 5.6
Tiflis, Russia	29.78	29.79	+ 0.01	85.5	85.3	— 0.2
Yeniseisk, Siberia	29.83	29.89	+ 0.06	62.6	66.2	+ 3.6
Zi-Ka-Wei, China	29.76	29.72	— 0.04	77.2	81.1	+ 3.9

* Means for eight years only.

The following table shows the mean pressure and mean temperature for August, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Aug. mean of 9 (1877-'85) years.	Aug., 1886.	Departure.	Aug. mean of 9 (1877-'85) years.	Aug., 1886.	Departure.
				°	°	°
Austro-Hungary	29.90	29.95	+ 0.05	73.0	75.1	+ 2.1
British Isles	29.91	30.01	+ 0.10	62.6	64.2	+ 1.6
Denmark	29.87	29.96	+ 0.09	62.1	64.4	+ 2.3
France	29.96	30.04	+ 0.08	73.6	76.7	+ 3.1
Germany	29.94	30.00	+ 0.06	68.2	70.1	+ 1.9
India	29.53	29.55	+ 0.02	83.4	83.4	normal.
Italy	29.92	29.94	+ 0.02	81.5	78.5	— 3.0
Norway	29.84	29.82	— 0.02	61.6	60.2	— 1.4
Russia	29.87	29.82	— 0.05	70.6	70.6	normal.
Spain*	29.96	30.04	+ 0.08	79.7	75.4	— 4.3
Sweden	29.84	29.82	— 0.02	63.2	65.4	+ 2.2

* Means for eight years only.

In the United States the winds were mostly westerly along the Pacific coast; on the coast of the south Atlantic states the prevailing winds were from the southwest; in the west Gulf states the wind was generally from the southeast; in the Missouri Valley it was from the south; in all other districts the winds were variable. In Canada the winds were westerly in the Saint Lawrence Valley, and variable in the Lake region. Over the north Atlantic Ocean the wind-directions were governed by the area of high pressure over the Azores and the low barometer area which occupied the ocean north of the fifty-fifth parallel. Over the British Isles south to west winds prevailed; over Scandinavia they were mostly southerly; over Denmark and Germany they were mostly from south to west; over France north to west winds were most frequently noted; in Spain and Portugal the winds were generally from north to east, while over southern Europe east of the tenth meridian the winds were westerly. In British India the prevailing winds were from south to west. Over the Japanese Islands the winds were variable, except over the northern portion, where they were southerly.

In the United States the rainfall was generally below the normal in the Lake region, Gulf States, south Atlantic states, Florida, upper Mississippi valley, extreme northwest, and along the Pacific coast. Especially large deficiencies occurred in Iowa, Florida, and along the Gulf coast. All stations in Arizona, and several in the Ohio and Missouri valleys and in Tennessee, reported an excess of rainfall. In Canada the rainfall was in excess of the average for the month in Quebec, Nova Scotia, Prince Edward Island, and in Ontario, except in the central district; in New Brunswick it was in defect, while in Manitoba only about one-third of the average for August fell. In the British Isles the rainfall was generally very deficient. At some stations, however, the amounts were in excess of the normal.

In the United States the storm of the 19th and 20th on the Texas coast, and the drought in the central districts, which was broken on the 12th and 13th, constituted noteworthy meteorological features of the month. In Canada the more noticeable features of the month were two important storms, which were very severe off the Nova Scotian coast, one on the 17th and 18th and the other on the 23d and 24th; the extremely high temperatures in Manitoba and Assiniboia on the 24th, and a frost in the same districts on the 31st. Over the north Atlantic Ocean the cyclonic depressions were exceptionally severe and destructive in their character. In the British Isles the weather was unsettled, although the winds were moderate and gales rare.

TRACKS OF AREAS OF LOW PRESSURE FOR AUGUST, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during August, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of forty-one areas of low pressure are shown, of which, thirteen are traced over the North American continent; twelve over the north Atlantic Ocean, or over the Caribbean Sea; eight over Europe; and eight off the eastern coast of Asia, or over the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of August during the last thirteen years is 9.5, or 3.5 less than the number traced for August, 1886.

The areas of low pressure traced over the North American continent generally developed on the eastern slope of the Rocky Mountains and passed eastward over the Lake region north of the forty-third parallel, reaching the Atlantic coast in the vicinity of Newfoundland. With the exception of the storm of the 19th and 20th, in the western Gulf and Texas, the month was not marked by the appearance of remarkable features in the development and progress of low pressure areas.

These storms are described in detail in the MONTHLY WEATHER REVIEW for August, 1886, under the heading "Areas of low pressure."

Of the twelve depressions traced as north Atlantic storms, two originated to the eastward of the Windward Islands and moved westward over the Caribbean Sea, one passing into the Gulf of Mexico, and the other moving northward over Cuba and advancing along the course of the Gulf Stream to Newfoundland. The storms generally pursued the normal east-northeast course across the Atlantic. A noteworthy feature of the month was the abnormal course of direction of number xxii on the 21st, when it was deflected northwest in the vicinity of Bermuda by an area of high barometric pressure to the eastward. Of the nine storms which advanced over the ocean from the American continent during the month, five traversed the ocean from coast to coast.

These storms are described in detail in the MONTHLY WEATHER REVIEW for August, 1886, under the heading "North Atlantic storms."

Of the eight depressions traced over Europe, six were continuations of storms which first appeared over the north Atlantic Ocean; three passed to the northward of Scandinavia, one of which moved southeast into northern Russia; one moved northeast over Portugal, Spain, and France; one pursued a diversified course over Italy and southern Europe, and one developed and moved northeastward over central Russia.

Number xxvi was a continuation of ocean depression number xiv, and passed southeast over southern Scandinavia into the Baltic Sea by the 3d, where central pressure abou: 29.65 (753.1) was shown; by the 4th the centre of depression had moved northeast to the eastern extremity of the Gulf of Finland, with pressure 29.55 (750.6) at Saint Petersburg; during the next twenty-four hours the path of the storm-centre recurved slightly to the southward, after which it moved northeast into northern Russia and disappeared after the 6th. Number xxvii appeared on the 8th over central Russia, with pressure ranging to 29.36 (745.7) at Koslov; during the 9th and 10th the storm-centre moved slowly northeast, with minimum pressure about 29.10 (739.1), after which it circled slowly eastward and apparently dispersed after the 12th.

Number xxviii is first charted over the southeast portion of England under date of the 10th, with barometric pressure 29.68 (753.9) at Greenwich; from this position the storm moved northeast over the North Sea, and on the 11th was central off the northern extremity of Jutland, with pressure about 29.50 (749.3), whence it passed west of north off the coast of Norway by the 12th, when pressure 29.31 (744.5) was reported at Brono. Number xxix was a continuation of ocean depression number xvi, and was central over the east of Ireland on the 13th, with minimum pressure about 29.30 (744.2);

by the 14th the storm-centre had advanced northeast to the southern extremity of Norway, with a decided increase in barometric pressure; by the 15th the depression had moved into the northern portion of the Baltic Sea, without evidence of marked energy, whence it passed southeast into the Baltic Provinces by the 16th, after which it advanced slowly eastward and disappeared to the eastward of the Caspian Sea after the 19th.

Number xxx first appeared on the 17th over the northern extremity of the Adriatic Sea, whence it moved west-southwest over Italy to Corsica by the 18th, where pressure ranging below 27.80 (756.9) was shown; by the 19th the depression had moved eastward over the Adriatic Sea, and by the 20th had passed southward to the forty-first parallel; by the 21st the storm had moved east-southeast over Turkey and northern Greece into the Mediterranean Sea in about E. 30°, after which it disappeared to the eastward. Number xxxi was central on the 22d off the southwest coast of Portugal, whence it moved northeast into France by the 24th, without a marked display of energy.

Number xxxii was a continuation of ocean depression number xxiii, which reached the north coast of Norway on the 27th, on which date barometric pressure 29.40 (746.7) was reported at Gjæsvær; by the 28th the centre of depression had moved southeast to the White Sea, with pressure ranging below 29.00 (736.6), and during the two following dates moved southeast and east over Russia, with diminishing energy. During the 31st the depression apparently moved to the southwestward and united with depression number xxxiii, which had advanced from the ocean. Number xxxiii was a continuation of ocean storm number xxiv and passed eastward over Scandinavia, the Gulf of Bothnia, and Finland during the 29th and 30th, and advanced into central Russia by the 31st, with a marked display of energy during its passage east of the twentieth meridian.

Of the eight depressions traced off the eastern coast of Asia, over the Japanese Islands, and the north Pacific Ocean, one advanced westward into the China Sea; one is traced over the interior of China; four traversed the Sea of Japan; one is charted along the valley of the Amoor into the Sea of Okhotsk; and one first appeared off the American coast in the vicinity of Sitka, Alaska, whence it is given a probable track which connects it with land depression number ix. The paths of depressions numbers xxxv, xxxvii, and xl are taken, in part, from chartings of typhoons prepared by Prof. W. Doberck, director of the Astronomical Observatory at Hong-Kong, the dotted portions of the paths being only approximate.

Number xxxiv was central on the 1st off the west coast of Yesso, with barometric pressure 29.50 (749.3) at Soya; by the 2d the depression had moved northeast into the Sea of Okhotsk, with reported pressure 29.48 (748.8) at Nikolaevsk, after which it passed beyond the region of observation, although the pressure continued low over the Sea of Okhotsk until the 6th. Number xxxv is given the approximate westward track charted by Professor Doberck. On the 12th reports from Manila and the island of Formosa indicated the presence of a depression to the westward, and pressure 29.46 (748.3) and a strong wnw. gale were reported at South Cape, Formosa; by the 13th the typhoon had advanced to the northward of Formosa, accompanied by heavy gales and barometric pressure ranging below 29.40 (746.7); by the 14th the storm-centre had advanced into China, in about N. 28°, with undiminished energy, after which it is given a probable northerly track to the fortieth parallel.

Number xxxvi appeared on the 12th in the upper Amoor valley, with pressure 29.72 (754.9) at Nerchinsk, whence it is given a probable east-southeast track to the one hundred and thirtieth meridian by the 13th; from this position the centre of depression moved east-northeast to the lower Amoor valley by the 14th, with pressure 29.41 (747.0) at Nikolaevsk; by the 15th the storm-centre had advanced northeast into the Sea of Okhotsk, whence it apparently passed eastward into Behring Sea. Number xxxvii appeared as a storm of great energy to the southward of Kiu-Siu on the 20th, with barometric pressure below 29.20 (741.7); by the 21st the centre of depression had moved to the northwest coast of Kiu-Siu, with central pressure about two-tenths of an inch higher than on the preceding date; by the 21st the storm had circled northeast into the Sea of Japan in about N. 38°, and midway between Corea and Hondo. In this position a marked loss of energy was shown, and during the subsequent course of the depression over northern Hondo and over the ocean to the eastward the barometric pressure in its centre ranged but slightly below 29.60 (751.8).

Number xxxviii appeared on the 19th in the vicinity of Sitka, Alaska, where pressure 29.54 (750.3) was shown, whence it is given a probable south of east track which connects it with land depression number ix. Number xxxix apparently originated over the Sea of Japan, where it was central in about N. 42° on the 26th; from this position it moved eastward over southern Yesso by the 27th, and thence passed eastward over the ocean, without evidence of marked energy. Number xl was apparently central on the 27th to the southwestward of Luzon, Philippine Islands, whence it moved northeast into the China Sea, in about N. 18°, E. 116°, by the 28th; by the 29th it had advanced to a position southeast of Hainan Island, after which it disappeared to the westward. A scarcity of reports from the region traversed by this storm renders it impossible to determine its character, as regards energy. Number xli is located off the west coast of Corea under date of the 29th, whence it advanced northeast into the Sea of Japan by the 30th, and moved eastward over southern Yesso into the Pacific Ocean by the 31st, without a marked display of energy.

SPECIAL NOTES.

CHANGE OF TIME.

Favorable replies having been received to the request that the daily observation of the international simultaneous series be made eight minutes earlier, on January 1, 1885, 7 h. 0 m., 75th meridian time, corresponding to noon, Greenwich mean time, was adopted as the time of observation instead of 7 h. 0 m., Washington time (0 h. 8 m. p. m., Greenwich mean time).

The following stations do not conform in their time of observation to the time of the international series, viz., Ivigtut, Greenland, at 8 a. m., local time, or 48 minutes early; Brono, Norway, at 2 p. m., or 71 minutes late. At Hobart Town, Tasmania, the observations are taken at 9 p. m., local time, or 49 minutes early.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below). The state of the weather is indicated by the following symbols:

○ clear; ◔ fair; ◑ cloudy; ● precipitation (rain, snow, hail, sleet).

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

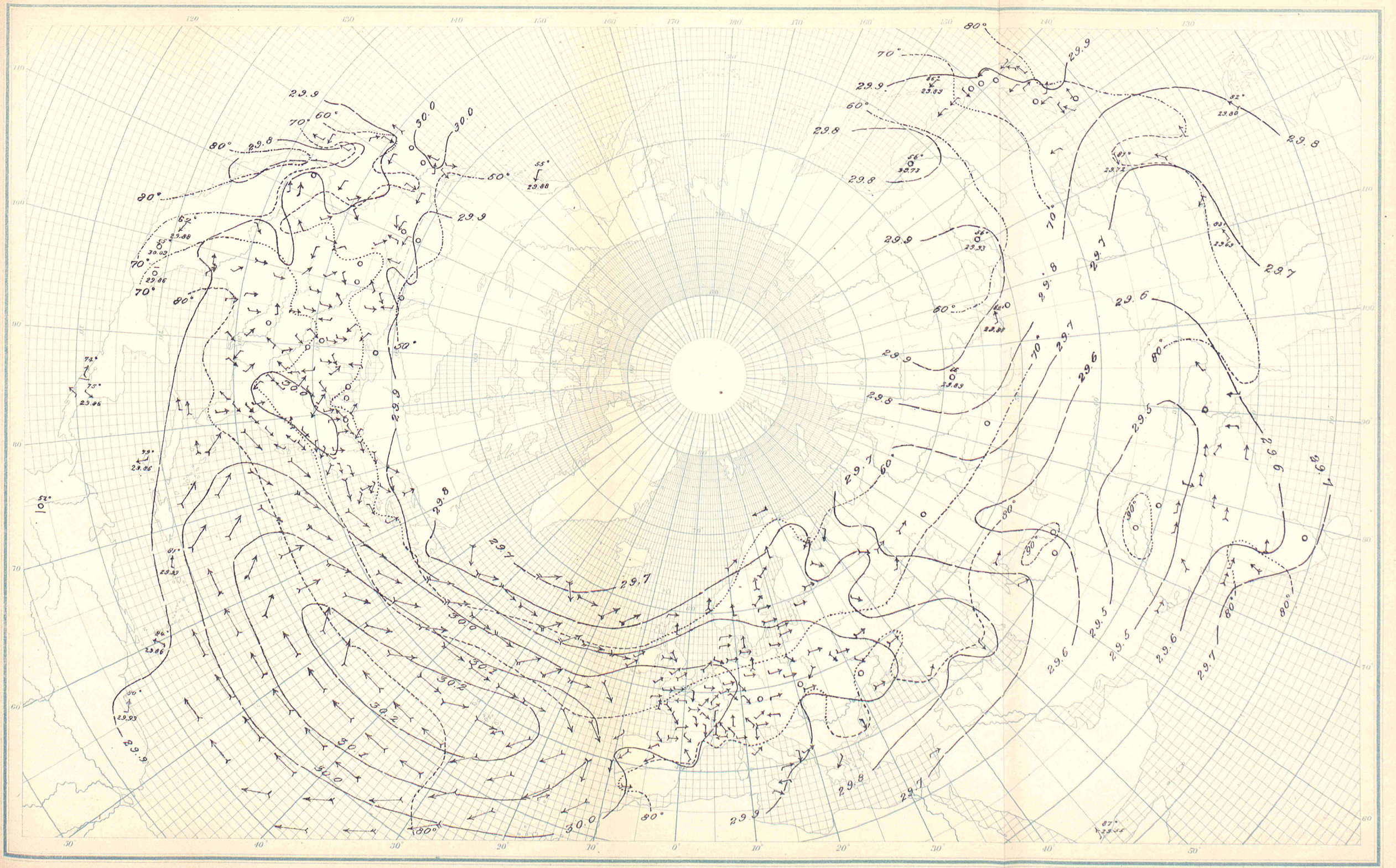
Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

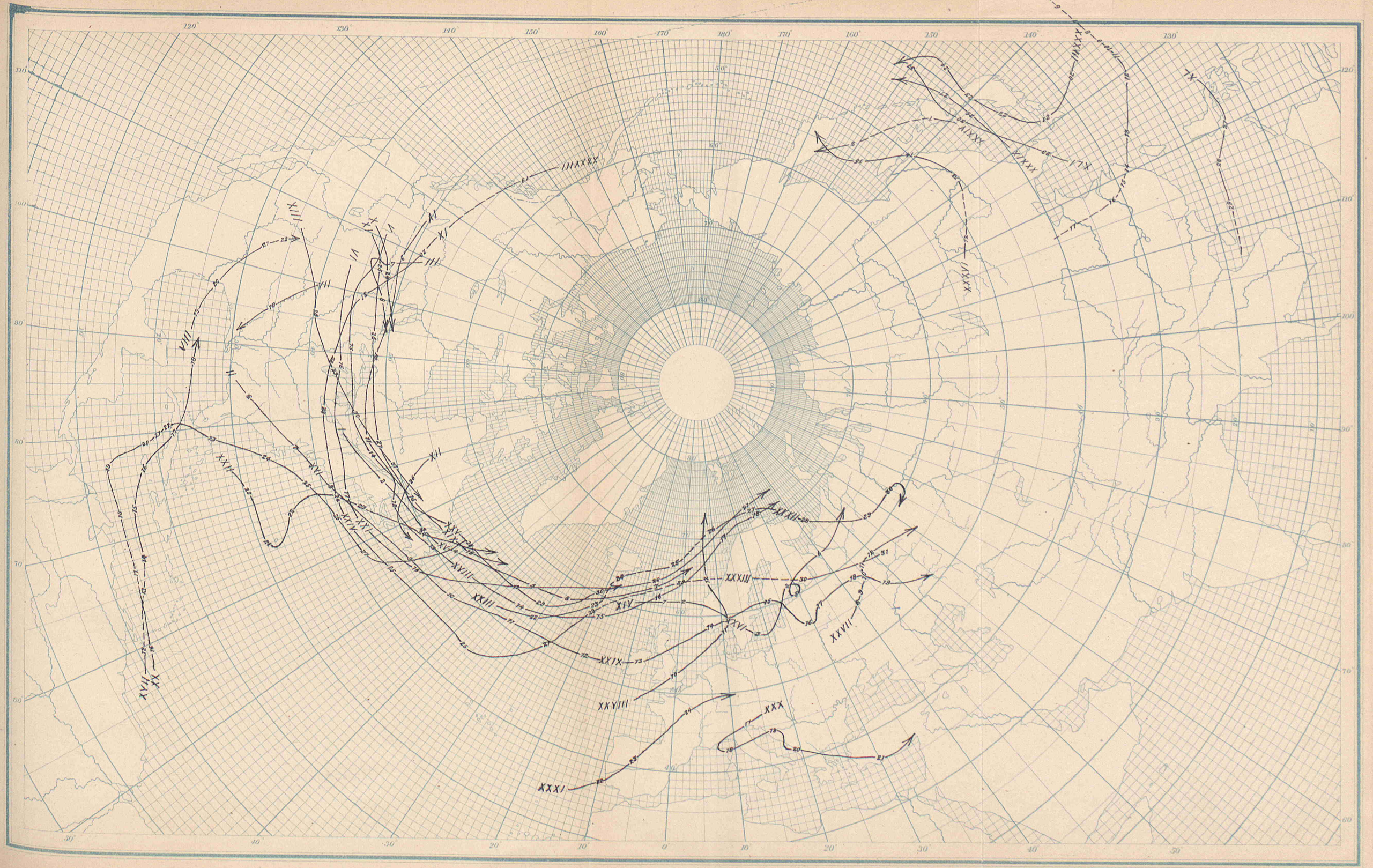
International chart iii shows the tracks of centres of low pressure. The

International Chart II. August, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. August, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August, 1886—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—Continued.	
Br. Madrid	Capt. M. Garson.
Matthew Bedlington	Thos. Kirby.
Span. Navarro	S. de Aldecocea.
Ger. Raiatea	J. Viereck.
Br. Saint Ronans	H. Campbell.
Stag	Jas. Adams.
Sulina	Thos. Potter.
Vindolana	Thos. Harrison.
N. Y. HERALD WEATHER SERVICE.	
Br. s. s. Adriatic	H. Parsell
Ailsa	J. W. Sanson.
Am. Alamo	S. Risk.
Alaska	G. S. Murray.
Aller	F. Hamelmann.
Alpes	Anasagasti.
Alvena	O. Hughes.
Aurania	W. H. P. Hains
Alvo	D. Williams.
Anchoria	J. J. Small.
Arizona	Sam. Brooks.
Belg. Assyrian Monarch	J. Harrison.
Br. Belgenland	W. A. Beynon.
Br. Britannic	P. J. Irving.
Buffalo	W. H. Malet.
Celtic	Benj. Gleadell.
Am. Cienfuegos	F. M. Faircloth.
Br. City of Berlin	F. S. Land.
City of Chester	H. Condron.
Br. City of Richmond	Authur Lewis.
City of Rome	R. D. Munro.
Am. City of Washington	W. H. Rittig.
Am. Comal	Chas. C. Lima.
Br. Craighill	W. H. Bennett.
Devonia	H. Young.
Ger. Donau	H. Swpme .
Ger. Eider	H. Helmers.
Br. Edith Godden	J. H. Bennett.
Ethiopia	J. Wilson.
Br. Etruria	T. Cook.
Ger. Ems	W. Willigerod.
Am. Eureka	R. B. Quick.
Ger. Fulda	R. Ringk.
Br. Gallia	M. Murphy.
Ger. Gellert	W. Kuhlewein.
Br. Greece	A. J. Jeffrey.
Fr. La Bourgogne	Franguel.
LaBretagne	de Jusselin.
Am. LaNormande	de Hersabiec.
Lampassas	
Lone Star	Mason.
Louisiana	Gager.
Br. Manhattan	F. Stevens.
Am. Miranda	Bendon.
Newport	W. G. Shackford.
Belg. Niagara	Bemis.
Dtch. Noordland	N. E. Nickels.
Belg. P. Caland	Bonjer.
Am. Pennland	R. Weyer.
Ger. Philadelphia	Hess.
Br. Rhein	C. Wiegand.
Ger. Richmond Hill	A. Hyde.
Belg. Rugia	A. Albers.
Am Rhynland	J. C. Jamisom.
Dtch. San Marcos	A. C. Burrows.
Br. Schiedam	G. Bakker.
Servia	A. McKay.
State of Nebraska	A. G. Braes.
State of Pennsylvania	A. J. A. Mann.
Ger. The Queen	J. Milligan.
Trave	W. Willigerod.
Belg. Warwick	
Br. Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
Wisconsin	Capt. E. Bentley.
Wyoming	C. L. Rigby.
SAILING VESSELS.	
Am. bg. Abbie Clifford	D. W. Storer.
Br. bk. Abyssinian	John Hughes.
Br. bg. Achsah	Capt. A. M. Shaw.
Br. bk. Ada Peard	N. Hocken.
It. Agostino Rombo	V. Basso.
Nor. bk. Alpha	O. C. Grönn.
Alrega	C. Gallus.
Angelica Accame	Vincenzo Niggi.
Am. bg. Arcot	J. W. Cates.
Ger. bk. Arnold von Bippen	T. Möller.
Nor. Artemis	E. E. Moe.
Am. schr. Benjamin Hale	John Hull.
Am. schr. Bertram L. Townsend	S. L. Tunnell.
bgt. Boston Marine	H. V. Porter.
Br. sp. British Isles	G. Southcott.
Br. sp. Cabul	John Rome.
Ger. sp. Carl	— Hashagen.
Br. sp. Caesare a	J. C. Barrete.
Chas. S. Whitney	Geo. D. Spicer.
Am. bk. Chas. R. Lewis	A. Montgomery.
Chas. Loring	G. J. Thestrup.
Br. sp. City Camp	D. McLeod.
Ger. Columbus	B. Sauermilch.
Am. schr. Comet	W. H. Aldrich.
Ger. bk. Cornelius	H. Windhorst.
Am. bk. Crescent	W. P. Gibbs.
Br. sp. Cyromene	Jas. Masson.
Earl of Shaftsbury	W. Randall.
Am. schr. Ella A. Warner	H. J. Greaves.
Nor. bk. Eliezer	P. Halvorsen.
Am. bk. Ethel	W. Thompson.
Ger. Emilie	W. Siems.
Am. schr. Ettie H. Lister	S. D. Mason.
Br. bk. Exile	G. J Pearce.
Am. schr. Florence Rogers	J S. F. McLeod.
bk. Fluorine	Wm. Manson.
Br. Forest	C. F. Cunningham.
It. Fratelli Laurin	Lodovico Laurin.
Ger. sp. Georg	G. A. Scholtz.
Ger. bk. Godeffroy	C. H. Sinnig.
Nor. Grundleven	O. G. Ellingsen.
Am. Harriet S. Jackson	W. T Bacon.
Br. Harvester	W. Cassidy.
Ger. sp. Hedwig	Th. Minssen.
Dtch bk. Helena	T. T. Verteet.
Am. sp. Henry Villard	F. B. Perkins.
Br. bk. Iodine	Adam Smith.
It. Ismaele	C. Fiodo.
Am. bg. Jane Adeline	B. Lathrop.
schr. Jennie A. Stubbs	Chas. M. Haskell.
bkt. Josephine	Chas. Brown.
Br. bg. Kenilworth	P. Doig.
Br. bk. Kryolith	W. C. Stephen.
Nor. sp. Komandor Svend Foyn	Johan Bryde.
Am. bg. L. & W. Armstrong	A. Alexander.
Br. bk. L. M. Smith	S. Smith.
Ger. bk. Leocadia	John Stohff.
Am. sp. Light-ship No. 37	C. Lindemann.
Br. bg. Lilian	N. F. Schive.
Nor. bk. Lovspring	G. Thomsen.
Br. sp. Mabel Taylor	C. E. Durkee.
bk. Madura	O. Bernier.
Am. sp. Magellan	E. S. Manson.
Am. schr. Maggie Abbott	D. C. McIntosh.
Nor. sp. Mathilda	T. J. Hansen.
Am. Mohican	B. F. Berry.
Am. bg. Morancy	Mate R. H. Cox.
Am. schr. Nelson Bartlett	Capt. S. Watts.
Am. bgt. Nellie M. Slade	J. A. Gould.
Nor. sp. Orion	A. Mathieson.
Ger. sp. Otto	W. Langsen.
Am. schr. Pearl	— Anderson.
Nor. bk. Premier	G. Guthormsen.
Am. bk Ralph M. Hayward	J. Baxter.
Dan. Rialto	N. P. Hansen.
Ger. Richard	A. von Seggern.
Am. sp. Ringleader	J. C. Entwistle.
Br. bkt. River Ganges	T. Naile.
Am. schr. Rollin Sanford	H. M. Davies.
Br. sp. Sapphire	G. W. Murray.
Am. bk. Sarah	L. R. Hale.
Br. sp. Stephen D. Horton	J. Spicer.
SAILING VESSELS—Continued.	
Am. bk. Templar	Capt. R. Roberts.
Am. bk. Teneriffe	W. S. Richardson.
Aust. sp. The Lord Warden	J. Ossoinack.
Nor. bk. Tros	S. Brager.
Ger. sp. Union	H. Fokken.
It. bk. Vincenzo Accame	N. V. Lavagna.
Ger. bk. Victoria	B. F. Rehm.
Western Chief	Fr. Sander.
Am. schr. W. H. Fredson	A J. Biddle.
Br. sp. Winnifred	R. MacDonald.
Nor. bk. Ymer	J. E. Andersen.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Brady.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Constellation	
U. S. S. Galena	W. H. Reeder.
U. S. S. Hartford	J. S. A. Gillis.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	Horace Elmer.
U. S. S. Juniata	G. T. Davis.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	E. E. Potter.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T Nelson.
U. S. S. Pensacola	R. D. Hitchcock.
U. S. S. Pinta	
U. S. S. Portsmouth	C. V. Gridley.
U. S. S. Quinnebaug	Geo. Coffin.
U. S. S. Ranger	C E. Clark.
U. S. S. Saratoga	C. H. Davis.
U. S. S. Shenandoah	B. Wilson.
U. S. S. Swatara	E. T. Windham.
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Trenton	R. L. Phythian.
U. S. S. Vandalia	H. L. Howison.
U. S. S. Yantic	F. M. Green.
BRITISH NAVAL.	
H. M. S. Alexandra	T. Fellowes, C. B.
H. M. S. Audacious	R. H. Harris.
H. M. S. Active	Fitz-Roy, C. B.
H. M. S. Briton	R. M. Lloyd.
H. M. S. Bacchante	A. U. Moore.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dart	A. M. Fields.
H. M. S. Dolphin	H. Lambton.
H. M. S. Himalaya	J. E. Stokes.
H. M. S. Hyacinth	Brackenbury.
H. M. S. Icarus	W. M. Annesley.
H. M. S. Myrmidon	R. F. Hoskyn.
H. M. S. Midge	H. J. Robilliard.
H. M. S. Miranda	E. Rooke.
H. M. S. Nelson	A. P. Lake.
H. M. S. Osprey	C. E. Gissing.
H. M. S. Orion	S. H. Royse.
H. M. S Penguin	Haggarth.
H. M. S. Raleigh	A. K. Wilson, C. V.
H. M. S. Rambler	W. U. Moore.
H. M. S. Rifleman	C. W. Prater.
H. M. S. Royalist	G. W. Hand.
H. M. S. Sylvia	L. S. Dawson.
H. M. S. Woodlark	E. W. Burt.
PORTUGUESE NAVAL.	
H. P. M. S. Tamega	
H. P. M. S. Yaire	
SWEDISH NAVAL.	
H. S. M. S. Vanadis	J. Osterman.
H. S. M. S. Robertsford	G. E. Sandborg.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of August. 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	Todd, C. M. G.
Hobart Town, Tasmania	C. L. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	*Leslie Gordon.*
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Pakhoi	C. Wanderleach.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Vestervig	Loerer Oesterbol.
FRENCH.	
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuce	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours	M. Letellier.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	T. Enas.
Gifu	R. Ikuchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.

Stations.	Observers.
JAPANESE—*Continued.*	
Numadzu	R Kaneda.
Osaka	H. Onura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	R. Tomitokoro.
Sapporo	K. Kugly.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	C. Carmina.
Mexico	The Staff.
Zacatecas	J. A. Bonilla, M. E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sseliwerstow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	*Ed. Stelling.*
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacmsipeyz.
Kieff	Observatory.
Korostishev	
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the Amoor	Schohberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Colonobr.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Troitskosavsk	
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	T. E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	*The Staff.*
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
UNITED STATES SUB-SERIES.	
Bluefields	Dr. W. F. Thorton.
Bogota	Joaquin Gomez Otero.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF SEPTEMBER, 1886.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
BRIGADIER GENERAL, CHIEF SIGNAL OFFICER OF THE ARMY.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
NOVEMBER, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Canadian	J. Kerr.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Manitoban	R. Caruthers.
Nova Scotian	R. H. Hughes.
Prussian	Alex. McDougall.
Scandinavian	John Park.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Princess	E. H. Freeth.
Am. Indiana	R. W. Sargent.
Br. Lord Clive	P. Urquhart.
Ocean Prince	W. J. Milburn.
ANCHOR LINE.	
Br. s. s. Anchoria	J. J. Small.
British Crown	Archibald Smith.
British Queen	R. Wills.
Circassia	A. Campbell.
City of Rome	R. D. Munroe.
Devonia	Hugh Young.
Dorian	J. McKeague.
Furnessia	J. Hedderwick.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ATLAS LINE.	
Span. s. s. Alpes	T. Anasagasti.
Br. Alvena	O. Hughes.
Alvo	David Williams.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
BORDEAUX STEAM NAVIGATION CO.	
Chateau Yquem	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gager.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Gallia	M. Murphy.
Pavonia	B. Woolfenden.
Scythia	T. Roberts.
Servia	H. McKay.
Umbria	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polynesia	A. Kuhn.
FABRE LINE.	
Fr. s. s. Neustria	P. Verrières.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Durham City	M. P. Land.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. La Bourgogne	Franquel.
La Bretagne	M. de Jousselin.
La Champagne	E. Traub.
La Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
GUION LINE.	
Br. s. s. Alaska	Capt. G. O. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Reessing.
Bohemia	R. Kurlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Lessing	H. Behrends.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con.	
Ger. s. s. Rhaetia	Capt. H. Vogelgesang.
Rugia	A. Albers.
Slavonia	H. Schmidt.
Wieland	C. Hebich.
Westphalia	Draescher.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chester	A. Lewis.
City of Chicago	Fred. Watkins.
LAMPORT & HOLT'S STEAMSHIP CO.	
Br. s. s. Bessel	Chas. J. Watson.
Biela	Fred Graham.
Dalton	J. Russell.
Holbein	Thos. J. Farrell.
Mozart	W. Spratley.
Olbers	Jas Clark.
LEYLAND LINE.	
Br. s. s. Bavarian	R. Leask.
Bulgarian	E. Parry.
Istrian	T. H. Fox.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
Colorado	Jas. Daniels.
Rio Grande	J. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	W. Bowen.
Pontiac	Ch. Off. R. Blyth.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	Capt. F. Bouchette.
Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Lydian Monarch	T. C. Huggett.
MORGAN LINE.	
Am. s. s. Eureka	R. B. Quick.
NATIONAL LINE.	
Br. s. s. America	R. W. Grace.
Canada	Thos. Foote.
Denmark	R. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
Erin	J. Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	G. Cochrane.
Holland	Wm. Tyson.
Italy	W. Pearce.
The Queen	John Milligan.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Polcevera	Jos. Brofferio.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	F. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rittig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. America	H. Bodeker.
Donau	H. Swpmer.
Eider	H. Helmers.
Elbe	H. Christoffers.
Ems	T. Jungst.
Fulda	R. Ringk.
Hermann	Kohlmann.
Main	R. Sander.
Saale	H. Reichter.
Trave	W. Willigerod.
Weser	H. Bruns.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gallic	W. G. Pearne.
Oceanic	J. Thompson.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	J. W. Catherine.
City of Augusta	K. S. Nickerson.
City of Savannah	Ch. Offi. Edwards.

Name of vessel.	Captain.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Mariposa	Capt. H. M Hayward.
OLD DOMINION STEAMSHIP CO.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP CO.	
Am. s. s. Orizaba	G. M. Goodall.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP CO.	
Am. s. s. City of New York	Robt. R. Searle.
City of Peking	J. C. Dearborn.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colima	J. M. Caverly.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	T. Chapman.
San José	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J. S. Garvin.
Trinidad	W. J. Fraser.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	G. Bakker.
Zaandam	H. v. d. Zee.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Brae.
State of Nevada	J. A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WATTS, WARD LINE.	
Br. s. s. Camden	S. R. Chandler.
WHITE CROSS LINE.	
Belg. s. s. Jan Breydel	H. Meyer.
Pieter de Connick	E. Smit.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Baltic	Geo. Burton.
Britannic	H. Perry.
Celtic	B. Gleadell.
WILSON LINE.	
Br. s. s. Bassano	W. Rea.
Buffalo	J. H. Malet.
Galileo	R. Potter.
Marengo	Wm. Abbott.
MISCELLANEOUS.	
Nor. s. s. Amicitia	P. L. Reimers.
Br. Angerton	S. M. Orr.
Craighill	W. H. Bennett.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, SEPTEMBER, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.														
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																									
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.92	760.0	30.06	763 5	56.3	13.5	68	1	2	5	3	2	3	2	7	5	8682	13972	4	0.69	17.5
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.67	753.6	29.86	758.4	48.5	9.2	84	11	7	6	2	3	.....	.....	.....	1	361	581	4	1.39	35.3
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.92	760.0	30.00	762.0	53.9	12.2	75	10	4	5	4	4	2	.....	.....	1	.....	.....	5	1.29	32.8
Austrian.																											
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.54	750.4	30.08	763.9	72.7	22 6	56	1	1	.....	8	2	7	10	1	.....	.....	.....	4	2.36	60.0
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.29	744.0	30.02	762.5	67.8	19.9	64	1	1	8	6	2	2	7	3	.....	.....	.....	4	1.00	25.3
Eperies	N. 48 58	E. 21 15	1.25 p.m.	820	250	29.19	741 4	30.04	763.1	69.2	20.7	72	5	.....	.....	.....	3	.....	.....	.....	22	.....	.....	4	0.95	24.2
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.74	730.1	30.08	763.9	66.6	19.2	72	1	.....	8	2	.....	.....	1	10	.....	.....	.....	4	1.49	37.9
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.08	738.6	30.06	763.4	67.6	19.8	63	4	10	6	.....	3	3	1	3	.....	.....	.....	4	1.23	31.3
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.96	761.0	30.07	763.8	77.2	25.1	58	.....	.....	14	4	4	1	5	2	.....	.....	.....	2	1.23	31.3
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.63	752.5	30.10	764.4	73.0	22.8	45	11	3	8	2	1	3	1	1	.....	.....	.....	3	0.94	23.8
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	289	88	29.79	756.6	30.06	763.5	74.8	23.8	54	1*b*	5	3	2	3	4	4	2	4	.....	.....	2*b*	1.75	44.4
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	30.00	761.9	30.10	764.4	76.3	24.6	56	1	9	5	9	.....	.....	:	5	.....	.....	.....	3	2.38	60.5
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.38	746.3	30.10	764.4	70.2	21.2	52	1*a*	6	7	.....	2	7	5	1	.....	.....	.....	3	0.33	8.3
Brazilian.																											
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.92	760.0	30.08	764.1	68.9	20.5	82	2	11	.....	2	1	8	.....	5	1	.....	.....	7	4.59	116.7
British.																											
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.85	758.2	29.97	761.3	55.6	13.1	66	3	3	2	4	11	3	3	1	.....	7587	12210	6	1.74	44.2
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	30.02	762.5	59.4	15.2	67	1	2	5	5	4	4	4	5	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.60	751.8	30.02	762.5	59.9	15.5	67	3	3	4	8	3	3	2	4	.....	.....	.....	8	1.63	41.4
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.88	758.9	29.84	757.9	84.3	29.1	74	.....	.....	1	.....	1	3	10	15	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.88	758.9	30.08	764.0	66.2	19.0	72	.....	3	5	2	4	2	1	1	12	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.83	757 7	30.03	762.7	61.0	16.1	79	3	4	.....	3	10	2	7	1	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.70	703.6	29.98	761.5	78.7	25.9	38	3	4	.....	1	2	.....	5	12	3	.....	.....	3	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.84	757.9	29.89	759.2	58.7	14.8	79	.....	2	1	14	2	2	2	7	.....	.....	.....	6	3.88	98.6
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.92	760.0	30.08	764.0	75.9	24.4	78	.....	2	10	2	.....	.....	8	8	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.86	758.4	30.05	763.3	65.5	18.6	66	4	.....	2	10	4	1	3	6	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.75	755.6	30.05	763.3	63.0	17.2	84	.....	5	4	5	3	.....	8	1	4	.....	.....	5	3.30	83.8
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	30.01	762.2	30.06	763.5	63.3	17.4	65	5	.....	2	0	8	2	3	4	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.76	755.9	30.03	762.7	62.2	16.8	70	3	2	.....	14	.....	2	1	8	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.94	760.5	30.00	762.0	78.5	25.8	77	.....	11	.....	1	1	7	3	7	.....	.....	.....	4	3.54	89.9
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.97	761.2	29.97	761.2	82.6	28.1	76	4	2	.....	.....	.....	3	4	14	3	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.81	757.2	30.06	763.5	61.9	16.6	69	4	2	.....	6	7	1	1	9	.....	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.94	760.5	30.02	762.5	61.9	16.6	80	.....	.....	3	10	1	1	7	2	6	.....	.....	7	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.82	757.4	29.94	760.5	53.2	11.8	74	3	4	5	7	4	6	1	.....	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.94	760.5	29.99	761.7	77.1	25.1	49	1	2	.....	5	1	.....	.....	19	2	.....	.....	4	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	30.04	763.0	58.7	14.8	70*a*	1*a*	.....	5	6	6	1	4	.....	.....	.....	.....	9	4.97	126.2
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	.....	.....	29.95	760.7	59.1	15.1	78	3	2	3	4	7	3	4	4	.....	.....	.....	8	.....	.....
Sub-series.																											
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.66	753.4	30.01	762.2	78.3	25.7	65	.....	7	4	7	3	4	5	.....	.....	.....	.....	5	1.72	43.7
Canadian.																											
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	30.02	762.5	30.07	763.8	54.4	12.4	.....	1	3	8	8	1	.....	2	.....	6	.....	.....	6	5.26	133.6
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	30.02	762.5	30.08	764.0	48.1	8.9	87	4	3	6	11	2	1	1	2	.....	3589	5776	5	2.92	74.2
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.84	757.9	30.05	763.3	56.4	13.6	84	1	1	14	2	4	.....	6	2	.....	.....	.....	5	2.98	75.7
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.96	761.0	30.02	762.5	50.4	10.2	.....	.....	.....	18	1	.....	.....	6	.....	3	.....	.....	4	3.46	87.9
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	30.00	762.0	30.03	762.7	47.4	8.6	84	2	.....	6	14	3	.....	.....	2	3	.....	.....	5	5.01	142.5
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	30.04	763.0	29.89	759.2	41.3	5.2	78	8	7	4	3	5	1	.....	2	.....	7097*f*	11421*f*	6	4.75	120.6
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	164	40	29.98	761.5	30.17	766.3	51.8	11.0	81	10	7	4	2	2	1	.....	1	3	5159	8302	6	2.88	73.2
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	30.07	763.8	30.12	765.0	54.9	12.7	80	3	6	5	7	1	3	2	.....	3	8624	13379	3	3.27	83.1
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.98	736.1	30.08	764.0	53.2	11.8	97	1	2	1	3	5	3	1	.....	14	3246	5224	5	3.69	93.7
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	30.00	762.0	30.12	765.0	55.0	12.8	89	4	7	7	4	1	3	1	2	1	.....	.....	5	4.50	115.8
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.73	755.1	30.12	765.0	58.4	14.7	75	2	1	8	9	3	4	2	1	.....	.....	.....	4	2.96	75.3
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.75	755.6	30.09	764.3	55.7	13.2	86	3	4	3	8	5	1	2	4	.....	4811	7742	4	5.49	139.4
Little Grace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	30.01	762.2	30.05	763.3	58.8	14.9	80	1	6	7	8	5	.....	.....	3	.....	.....	.....	5	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.20	741.7	30.10	764 5	59.3	15.2	93	1	.....	.....	.....	2	.....	.....	.....	27	1021	1643	5	3.90	99.1
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.62	701.5	29.90	759.4	49.5	9.7	84	.....	5	.....	4	.....	.....	1	.....	20	6647	10697	4	0.19	4.8
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.08	713.2	29.90	759.4	34.2	1.2	91	.....	11	4	.....	.....	2	2	2	9	7780	12520	4	0.71	18.0
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.87	758.7	30.08	764.0	54.1	12.3	84	3	2	11	3	7	2	.....	2	.....	.....	.....	5	3.84	97.5
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	224	68	29.82	757.4	30.07	763.8	50.1	10.1	91	3	3	7	3	1	2	6	5	.....	3039	5374	5	3.99	101.3
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.36	745.7	30.08	764.0	51.0	10.6	93	2	.....	5	2	1	11	8	.....	1	7776	12514	5	4.57	116.1
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.28	748.7	30.09	764.3	53.0	11.7	88	.....	5	3	2	4	2	.....	.....	14	.....	.....	4	4.16	105.8
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.19	741.4	29.91	759.7	43.8	6.6	93	.....	3	3	4	2	.....	1	2	15	3167	5097	3	7.52	191.0
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.40	746.7	30.09	764.3	57.2	14.0	96	1	3	4	4	3	1	.....	3	11	2770	4458	4	6.34	161.0
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.44	747.8	30.08	764.0	56.0	13.3	92	1	2	9	2	1	4	4	.....	7	.....	.....	5	4.25	107.9
Qu'Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.62	701.5	29.91	759.7	40.0	4.4	70	1	3	11	6	5	2	.....	1	1	4843*f*	7794*f*	4	0.14	3.6
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.75	755 6	30.08	764.0	49.9	9.9	86	.....	2	9	6	.....	2	2	6	3	.....	.....	6	4.90	124.5
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.59	751.6	30.05	763.3	48.4	9.1	90	1	1	8	2	1	1	6	.....	10	.....	.....	5	3.85	97.8
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	30.05	763.3	30.10	764.5	51.0	10.6	90	2	10	3	2	1	2	2	1	7	.....	.....	3	1.55	39.4
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.99	761.7	30.12	765.0	51.9	11.1	88	1	6	1	4	4	.....	2	5	7	.....	.....	6	3.03	77.0
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.04	763.1	53.6	12.0	.....	1	10	4	5	.....	5	1	4	.....	.....	.....	.....	3.86	98.2
Saugeen	N. 44 30	W. 81 21	6.35 a.m.	656	200	29.34	745.2	30.04	763.0	54.8	12.7	83	4	2	4	4	11	1	1	.....	3	6068	9765	5	3.15	80.0
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	30	9	29.95	760.7	29.99	761.7	48.6	9.2	86	7	3	6	.....	12	.....	.....	1	1	.....	.....	4	4.20	106.7
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.81	731.8	30.11	764.8	52.5	11.4	92	3	3	1	5	9	1	.....	1	7	2677	4308	4	2.81	71.4
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.31	693.7	29.94	760.5	37.7	3.2	87	.....	.....	7	8	1	12	.....	.....	2	.....	.....	5	0.55	14.0
Sydney	N. 46 08	" 60 10	7.59 a.m.	37	11	30.02	762 5	30.08	764.0	54.5	12.5	89	.....	1	2	10	8	3	.....	3	3	6578	10586	5	3.58	90.9
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.72	754.9	30.10	764.5	54.1	12.3	88	3	4	4	5	.....	1	2	5	.....	.....	.....	4	3.77	95.8
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.05	737.9	30.10	764.5	53.7	12.1	84	.....	2	5	7	5	1	6	2	2	.....	.....	5	3.54	89.9
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	30.05	763.3	30.12	765.0	52.9	11.6	90	5	5	.....	5	3	2	4	1	5	.....	.....	3	5.70	144.8
Sub-series.																											
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.74	755.4	29.94	760.5	53.1	11.7	80	1	6	6	5	3	4	.....	5	.....	.....	.....	5	1.42	36.1
Chinese.																											
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	29.92	760 0	29.91	759.7	75.3	24.1	.....	.....	.....	.....	.....	.....	.....	.....	28	2	.....	.....	6	2.86	72.6
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.74	755.4	29.79	756.7	79.2	26.2	72	3	2	1	.....	.....	3	2	11	5	3	.....	5	2.99	75.9
Fakhoi	N. 21 29	E. 109 06	7.17 p.m.	19	6	29.74	755.4	29.78	756.4	82.1	27.8	.....	7	1	4	4	1	6	1	4	2	.....	.....	.....	2.52	64.0
Sub-series.																											
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	29.93	760.3	29.91	759.7	67.6	19.8	90	9	3	1	1	.....	1	4	11	.....	.....	.....	4	1.89	48.0
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.69	754.1	29.75	755.6	77.8	25.5	.....	4	3	.....	2	1	.....	.....	17	3	.....	.....	6	22.80	579.1
Danish.																											
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.95	760.8	30.05	763.2	61 5	16.4	69	4	6	5	3	10	.....	1	1	.....	.....	.....	6	.....	.....
Fance	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.97	761.3	30.04	763.0	61.5	16.4	75	1	3	6	11	5	3	.....	1	.....	.....	.....	5	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.88	759.0	30.02	762.4	58.5	14.7	72	1	3	10	7	4	1	1	2	1	.....	.....	5	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
French.	° ′	° ′																										
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.60	751.8	30.17	766.2	68.2	20.1	77	8	3	1	8	.....	2	.....	8							2.80	71.2
Arras	N 50 18	E. 2 46	0.11 p m	223	68	29.84	757.9	30.09	764.3	69.6	20.9	62	.....	3	.....	3	.....	2	2	6	14	.....	.....	.....	.....	.....	0.72	18.3
Avignon	N. 43 57	E. 4 49	0.19 p.m.	66	20	29.99	761.7	30.07	763.7	78.3	25.7	60	7	.....	1	10	9	2	.....	1	.....	.....	.....	.....	.....	2	3.18	80.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.52	749.8	30.08	763.9	71.8	22.1	66	.....	2	.....	6	11	6	3	2	.....	.....	.....	.....	.....	5	3.04	77.1
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.76	755.9	30.08	764.1	72.0	22.2	63	1	3	7	6	3	1	1	8	.....	.....	.....	.....	.....	3	1.27	32.3
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.21	741.8	30.08	763.9	73.4	23.0	70	2	.....	.....	4	13	1	2	8	.....	.....	.....	.....	.....	3	2.09	53.1
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.80	756.9	30.06	763.4	72.7	22.6	62	3	3	1	4	5	8	3	3	.....	.....	.....	.....	.....	5	4.00	101.5
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.51	749.5	30.04	763.0	73.4	23.0	57	3	3	7	5	3	2	4	3	.....	.....	.....	.....	.....	.....	2.83	72.0
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.76	756 0	30.02	762.6	67.5	19.7	80	5	2	.....	8	6	.....	2	1	6	.....	.....	.....	.....	7	3.90	99.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.91	759.7	30.11	764.8	68.4	20.2	65	2	2	.....	11	7	2	3	3	.....	.....	.....	.....	.....	1	1.42	36.1
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.78	756.4	30.11	764.8	70.2	21.2	72	4	.....	1	2	18	1	2	2	.....	.....	.....	.....	.....	.....	2.28	57.9
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.56	750.7	30.09	764.3	68.5	20.3	63	1	2	4	6	5	9	2	1	.....	.....	.....	.....	.....	4	1.58	40.2
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.74	729.9	30.04	763.1	73.4	23.0	53	6	5	4	1	7	5	1	1	.....	.....	.....	.....	.....	4	2.32	58.8
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.22	742.2	30.06	763.5	74.1	23.4	59	.....	1	6	7	2	4	.....	10	.....	.....	.....	.....	.....	4	2.29	58.2
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.22	742.1	30.08	764.0	70.3	21.3	82	3	3	10	2	2	1	4	2	3	.....	.....	.....	.....	4	.....	.....
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.62	701.6	30.06	763.6	72.3	22.4	53	3	.....	.....	.....	20	.....	.....	.....	7	.....	.....	.....	.....	.....	1.90	48.2
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.97	735 8	30.06	763.5	74.3	23.5	58	5	1	.....	6	6	6	.....	6	.....	.....	.....	.....	.....	5	6.14	155.9
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.39	746.4	30.14	765.5	71.8	22.1	68	2	8	10	4	.....	2	4	.....	.....	.....	.....	.....	.....	.....	1.94	49.3
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.52	724.3	30.11	764.7	62.2	16.8	77	.....	3	4	9	.....	.....	.....	.....	14	.....	.....	.....	.....	3	2.58	65.5
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.52	749.7	30.07	763.7	75.6	24.2	61	2	1	8	5	1	9	3	1	.....	.....	.....	.....	.....	.....	4.62	117.4
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.96	761.0	30.08	764.0	68.9	20.5	75	2	1	.....	7	13	1	2	4	.....	.....	.....	.....	.....	4	3.25	82.5
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	29.04	737.6	30.06	763.6	74.1	23.4	50	6	3	2	.....	4	9	6	.....	.....	.....	.....	.....	.....	3	1.48	37.7
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.72	754.9	30.04	763.0	70.0	21.1	72	.....	2	8	8	1	3	6	2	.....	.....	.....	.....	.....	2	1.36	34.6
Marseille	N. 43 18	E. 5 23	0.22 p.m.	240	75	29.81	757.1	30.06	763.6	76.8	24.9	63	a	1	8	7	7	2	4	.....	.....	.....	.....	.....	.....	4	5.36	136.1
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	25.02	635.5	29.85	758.1	62.1	16.7	55	1	1	9	12	1	2	2	2	.....	.....	.....	.....	.....	3	1.60	40.6
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.93	760.1	30.02	762.4	77.7	25.4	65	6	3	.....	1	5	1	2	3	9	.....	.....	.....	.....	3	8.21	208.6
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	24.05	610.5	.....	.....	48.7	9.3	78	2	6	.....	2	11	9	.....	.....	.....	.....	.....	.....	.....	3	7.74	196.6
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.32	744.8	30.10	764.5	68.9	20.5	72	3	5	3	7	2	3	2	3	.....	.....	.....	.....	.....	.....	0.30	7.6
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.92	759.9	30.07	763.7	70.3	21.3	68	3	2	1	6	10	1	5	2	.....	.....	.....	.....	.....	6	2.24	56.8
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.98	761.4	30.04	763.1	78.3	25.7	80	f	.....	2	.....	9	.....	10	2	1	.....	.....	.....	.....	.....	0.22	5.7
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.96	760.9	30.06	763.6	76.8	24.9	57	3	4	.....	.....	.....	1	8	13	1	.....	.....	.....	.....	4	1.47	37.4
Pic du Midi (Snm-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.40	543.6	.....	.....	44.2	6.8	64	.....	.....	2	5	.....	.....	.....	1	22	.....	.....	.....	.....	5	2.41	61.1
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.05	737.9	30.07	763.8	74.8	23.8	52	9	.....	4	.....	13	1	.....	1	2	.....	.....	.....	.....	3	4.11	104.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.28	642.2	.....	.....	54.0	12.2	80	.....	.....	3	10	1	10	4	2	.....	.....	.....	.....	.....	5	3.46	87.9
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.02	762.5	30.05	763.3	73.0	22.8	73	3	4	4	4	2	.....	5	3	5	.....	.....	.....	.....	8	3.13	79.5
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.77	756.2	30.04	763.1	72.5	22.5	59	.....	1	1	9	6	6	1	6	.....	.....	.....	.....	.....	5	2.13	54.0
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.95	709.9	30.02	762.5	71.2	21.8	56	.....	1	.....	.....	12	.....	12	.....	.....	.....	.....	.....	.....	2	1.96	49.8
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	30.03	762.7	30.09	764.3	70.5	21.4	59	2	.....	5	9	10	3	.....	1	.....	.....	.....	.....	.....	5	0.92	23.5
Saint Brieuc	N. 48 37	E. 5 08	0.20 p.m.	346	106	29.65	753.2	30.04	763.0	64.2	17.9	72	5	1	2	7	6	1	1	7	.....	.....	.....	.....	.....	.....	1.21	30.7
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.90	759.4	30.08	764.0	69.8	21.0	65	6	4	3	5	7	2	.....	3	.....	.....	.....	.....	.....	6	1.92	48.8
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.40	746.7	30.12	765.1	76.6	24.8	57	2	9	1	.....	.....	14	4	.....	.....	.....	.....	.....	.....	4	2.03	51.5
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.87	758.8	30.05	763.3	74.8	23.8	64	4	3	3	8	2	3	5	2	.....	.....	.....	.....	.....	4	1.75	44.4
Sub-Series.																												
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.93	760.1	30.08	763.9	74.3	23.5	60	4	4	6	2	1	1	6	6	.....	.....	.....	.....	.....	5	4.48	113.9
German.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.66	727.9	30.09	764.2	68.7	20.4	51	2	3	6	6	.....	4	2	5	2	.....	.....	.....	.....	3	2.56	65.1
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.21	741.9	30.08	764.0	70.2	21.2	49	2	3	7	6	.....	5	4	1	2	.....	.....	.....	.....	4	0.74	18.7
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.91	759.6	30.07	763.8	68.5	20.3	49	2	3	7	4	5	3	2	3	2	.....	.....	.....	.....	4	0.77	19.6
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.56	750.7	30.12	765.1	68 5	20.3	47	1	4	8	5	4	3	5	.....	.....	.....	.....	.....	.....	4	0.56	14.2
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.63	752.7	30.10	764.6	69.8	21.0	59	.....	.....	1	13	3	1	6	6	.....	.....	.....	.....	.....	4	3.92	99.5
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.36	745.7	30.11	764.8	68.0	20.0	61	2	3	2	10	6	2	1	4	.....	.....	.....	.....	.....	5	3.48	88.3
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.72	754.8	30.14	765.6	70.5	21.4	54	2	1	6	7	4	2	4	3	1	.....	.....	.....	.....	4	1.08	27.3
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.69	728.7	30.08	763.9	67.3	19.6	74	3	.....	2	17	3	2	.....	3	.....	.....	.....	.....	.....	3	0.32	8.1
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.97	761.3	30.06	763.6	66.9	18.9	63	3	2	6	10	2	5	1	.....	.....	.....	.....	.....	.....	3	1.69	43.0
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	30.00	762.0	30.04	763.2	61.9	16.6	68	4	2	7	8	.....	2	2	5	.....	.....	.....	.....	.....	5	2.20	56.0
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.66	753.4	30.10	764.4	68.5	20.3	66	.....	4	5	7	2	6	4	2	.....	.....	.....	.....	.....	4	1.76	44.7
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.96	760.9	30.02	762.5	61.2	16.2	68	3	10	9	4	4	.....	.....	.....	.....	.....	.....	.....	.....	5	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.30	718.7	30.18	766.5	63.7	20.4	59	1	3	10	1	.....	2	2	9	2	.....	.....	.....	.....	5	1.47	37.4
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.00	762.0	30.07	763.8	64.2	17.9	62	4	1	12	1	4	2	3	3	.....	.....	.....	.....	.....	5	1.58	40.1
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.53	750 1	30.07	763.8	70.9	21.6	61	4	3	6	6	1	.....	.....	6	4	.....	.....	.....	.....	5	5.04	127.9
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.23	742.5	30.08	764.0	70.3	21.3	57	2	.....	4	3	.....	1	5	15	.....	.....	.....	.....	.....	5	1.71	43.5
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.02	762.4	30.07	763.8	63.9	17.7	64	7	4	6	6	3	.....	.....	4	.....	.....	.....	.....	.....	5	1.28	32.5
Greek.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.64	752.8	29.98	761.5	81.9	27.7	40	.....	.....	.....	.....	6	.....	.....	24	.....	.....	.....	.....	.....	2	.....	.....
Indian.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.67	753.7	29.67	753.6	82.8	28.2	72	.....	.....	16	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0.08	2.0
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.25	743.0	29.67	753.6	89.9	32.3	49	3	.....	6	14	7	.....	.....	.....	.....	.....	.....	.....	.....	3	0.59	15.0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.76	756.0	29.74	755.4	81.9	27.7	79	4	13	10	2	.....	.....	.....	1	.....	.....	.....	.....	.....	6	6.19	157.2
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.94	709.5	29.71	754.7	78.3	25.7	68	.....	1	18	10	.....	1	.....	.....	.....	.....	.....	.....	.....	7	4.06	103.1
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2524	769	27.25	692.2	29.72	754.8	73.7	23.2	79	1	1	14	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	0.84	21.3
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	28.90	734.2	29.55	750.7	94.6	34.8	43	.....	1	4	1	2	1	2	1	18	.....	.....	.....	.....	1	0.97	24.6
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.73	729 8	29.57	751.0	88.7	31.5	59	.....	.....	.....	14	.....	4	1	.....	11	.....	.....	.....	.....	2	1.23	31.2
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.09	738.8	29.59	751.5	90.5	32.5	61	5	15	5	.....	.....	.....	2	1	2	.....	.....	.....	.....	2	1.61	40.9
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.64	727.5	29.60	751.8	87.9	31.1	52	7	5	5	1	2	1	1	5	3	.....	.....	.....	.....	7	3.38	85.8
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.34	719.9	29.62	752.3	84.9	29.4	58	3	10	5	1	.....	1	.....	7	3	.....	.....	.....	.....	7	2.98	75.7
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.28	743.8	29.61	752.0	86.4	30.2	71	8	5	3	1	1	2	2	5	3	.....	.....	.....	.....	4	10.23	259.8
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.34	745.1	29.60	751.7	85.8	29.9	75	3	3	5	.....	.....	.....	.....	6	3	.....	.....	.....	.....	4	6.73	170.9
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.47	748.6	29.60	751.9	82.9	28.3	83	1	1	.....	.....	.....	.....	.....	3	10	.....	.....	.....	.....	1	.....	307.6
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.67	702.9	29.61	752.1	77.2	25.1	84	6	5	3	2	2	3	4	11	1	13	.....	.....	.....	8	12.11	307.6
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.56	750.9	29.58	751.4	83.6	28.7	77	a	3	1	8	6	2	1	3	5	.....	.....	.....	.....	9	9.47	240.5
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.64	753.0	29.61	752.1	81.7	27.6	87	1	2	.....	6	11	6	4	.....	.....	.....	.....	.....	.....	7	12.89	327.4
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.57	751.0	29.64	752.8	80.7	27.1	87	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	13.93	353.8
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.64	753.0	29.68	753.8	81.3	27.4	88	.....	1	.....	3	13	4	1	.....	8	.....	.....	.....	.....	5	16.54	420.1
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.37	746.0	29.63	752.6	81.9	27.7	89	4	.....	2	9	.....	3	2	10	.....	.....	.....	.....	.....	8	14.48	367.8
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.27	718 1	29.63	752.5	90.6	32.6	43	.....	17	7	1	.....	2	1	2	.....	.....	.....	.....	.....	7	11.14	283.0
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1475	449	28.26	717.9	29.65	753.2	87.2	30.7	54	2	10	10	3	.....	.....	1	3	1	.....	.....	.....	.....	2	1.08	27.4
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.50	749.3	29.70	754.4	87.8	31.0	60	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	.....	.....
Italian.																										7	1.89	48.0
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.61	752.1	30.00	762.1	76.1	24.5	46	.....	.....	5	4	7	6	3	.....	5	.....	.....	.....	.....	3	4.44	112.9
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.59	751.6	30.09	764.3	75.4	24.1	54	1	3	3	6	1	10	5	1	.....	.....	.....	.....	.....	5	1.80	45.8
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.97	761.3	30.08	764.0	74.8	23.8	51	3	4	6	2	3	5	4	3	.....	.....	.....	.....	.....	3	0.47	12.0
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.19	741.4	30.08	764.0	71.1	21.7	64	.....	2	2	10	6	2	1	7	.....	.....	.....	.....	.....	4	5.94	150.8
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.88	758.9	30.07	763.7	75.7	24.3	59	12	.....	2	10	1	5	.....	.....	.....	.....	.....	.....	.....	4	0.78	19.8
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	30.04	763.0	30.09	764.2	73.6	23.1	69	10	12	4	.....	.....	2	6	2	.....	.....	.....	.....	.....	4	1.11	28.1
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.82	757.3	30.06	763.6	77.0	25.0	46	3	7	4	1	.....	2	6	7	.....	.....	.....	.....	.....	2	0.98	24.9
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.99	761.7	30.07	763 8	77.4	25.2	57	.....	6	4	.....	2	5	11	2	.....	.....	.....	.....	.....	4	1.12	28.5
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.89	759.2	30.04	763.1	80.8	27.1	43	3	1	1	2	2	12	8	2	.....	.....	.....	.....	.....	4	1.12	36.7
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.82	757.3	30.04	763.1	78.1	25.6	53	8	7	.....	.....	.....	2	6	1	.....	.....	.....	.....	.....	5	1.44	36.6
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.22	742.2	30.05	763 3	74.5	23.6	62	.....	.....	2	5	1	2	10	6	.....	.....	.....	.....	.....	3	0.54	13.8
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.64	762.9	30.05	763.2	79.7	26.5	67	5	12	4	1	2	4	1	1	.....	.....	.....	.....	.....	4	1.37	34.7
Sub-Series.																										4	3.23	82.1
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22 35	567 7	.....	.....	47.5	8.6	63	3	.....	15	4	.....	.....	3	5	.....	.....	.....	.....	.....	5	1.98	50.2
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.37	568.1	.....	.....	47.8	8.8	62	2	2	1	11	.....	8	5	1	.....	.....	.....	.....	.....	8	1.89	47.9

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metrs.	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
JAPANESE.	° ′	° ′																								
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	29.90	759.4	29.94	760 3	69.0	20.6	94	3	4	2	.....	.....	.....	10	1	10	.....	.....	6	5.73	145.6
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.90	759.5	29.93	760.1	67.8	19.9	88	2	1	1	.....	2	.....	3	1	20	6574	10574	7	6.65	169.0
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	29.90	759.4	29.89	759.2	72.9	22.7	85	1	2	6	2	4	2	3	10	.....	6456	10387	7	6.04	153.3
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	29.90	759.4	29.92	760.1	72.0	22.2	87	4	3	2	.....	.....	7	2	3	9	2721	4380	6	10.53	267.1
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.93	760.1	29.93	760.1	65.0	18.4	90	9	3	3	.....	.....	1	7	2	5	5977	9619	7	4.34	109.9
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.85	758.1	29.92	759.8	72.4	22.4	92	1	1	4	.....	3	4	7	9	1	.....	.....	7	15.65	397.6
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	29.86	758.5	29.85	758.2	72.7	22.6	82	21	.....	1	.....	1	.....	1	2	4	4656	7492	6	13.75	349.3
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.83	757.7	29.91	759.6	71.0	21.7	88	3	.....	1	.....	2	8	8	.....	8	2764a	4448a	7	4.87	123.8
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	29.86	758.4	29.83	757.8	73.3	23.0	84	3	2	1	.....	.....	.....	7	5	12	2928	4712	6	17.11	434.4
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.75	755.7	29.89	759.3	71.4	21.9	86	11	2	1	1	2	.....	4	5	4	2536	4081	7	8.85	224.6
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	29.90	759.5	29.89	759.2	73.4	23.0	85	3e	11	4	.....	.....	1	5	2	1	.....	.....	7	21.87	554.1
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	29.85	758.2	29.84	757.9	72.5	22.5	92	9	.....	4	.....	4	1	6	.....	6	5344	8609	7	49.58	1259.3
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.85	758.3	29.94	760.5	67.9	20.0	90	.....	2	11	8	4	.....	2	.....	3	2528	4069	6	5.86	148.8
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.68	753.9	29.85	758.1	71.8	22.1	89	6	1	2	.....	.....	1	1	5	14	3416	5498	6	9.98	253.5
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.84	758.0	29.93	760.2	60.7	15.9	91	4	2	2	1	11	3	3	.....	4	5102	8211	7	7.28	184.3
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.90	759.3	29.91	759.7	73.4	23.0	80	3	.....	5	.....	.....	3	6	1	12	4202	6762	7	2.89	73.3
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.94	760.5	29.94	760.5	71.3	21.8	89	2	3	.....	2	13	3	2	1	4	9381	15097	8	3.62	91.9
Numadza	N. 35 06	E.138 51	9.15 p.m.	30	9	29.93	760.1	29.94	760.4	73.0	22.8	88	2	.....	.....	2	5	.....	15	5	1	.....	.....	8	13.88	352.7
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	29.87	758.6	29.89	759.1	73.1	22.8	82	4	.....	5	2	.....	.....	8	10	1	6236	10036	7	7.38	187.2
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	29.89	759.2	29.88	758.9	72.1	22.2	84	8	2	.....	1	.....	1	5	6	7	4712b	7584b	7	16.71	424.4
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.73	755.1	29.89	759.1	72.3	22.2	86	2	5	.....	.....	1	.....	10	1	11	.....	.....	7	15.87	403.3
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.88	758.9	29.92	760.0	61.2	16.2	82	4	.....	3	2	8	5	6	.....	2	8188	13173	6	7.09	180.5
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.86	758.4	29.91	759.7	63.3	17.4	88	1	5	2	1	5	6	1	.....	9	5000	8046	7	7.29	185.2
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.90	759.5	29.95	760.7	72.6	22.5	88	3	1	1	.....	12	5	6	2	.....	6552	10544	7	10.02	254.6
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	29.84	758.0	29.86	758.5	73.2	22.9	82	4	.....	.....	1	1	2	3	6	13	2737	4405	6	5.87	149.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.96	761.0	30.10	764.5	72.7	22.6	60	2	1	1	.....	.....	5	20	1	.....	.....	.....	5	0.85	21.6
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.67	601.3	29.81	757.2	59.3	15.2	89	2	4	3	2	1	2	2	14	.....	.....	.....	8	9.58	243.2
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.29	617.0	29.79	756.7	60.3	15.7	91	2	14	.....	9	1	2	1	1	.....	.....	.....	8	9.64	244.7
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.61	752.2	29.82	757.4	77.5	25.3	88	.....	2	.....	.....	1	7	15	5	.....	.....	.....	6	9.34	237.0
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.07	585.9	30.00	762.0	55.9	13.3	89	1	2	.....	.....	.....	.....	.....	.....	27	.....	.....	9	7.81	198.4
Puebla	N. 19 03	W. 98 03	5.28 a.m.	7113	2168	23.33	592.5	29.88	758.9	57.4	14.1	84	4	.....	.....	.....	.....	1	1	1	23	.....	.....	5b	6.06	153.9
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	30.07	763.7	30.10	764.5	67.1	19.5	.....	1	1	5	8	3	1	7	4	.....	.....	.....	.....	0.82	20.8
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.98	761.6	30.07	763.8	63.9	17.7	64	3	4	6	5	1	3	4	4	.....	.....	.....	.....	2.40	60.9
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	30.04	763.0	30.07	763.8	63.5	17.5	63	3	1	3	11	4	.....	4	4	.....	.....	.....	.....	2.30	58.3
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	30.06	763.5	30.09	764.3	67.6	19.8	.....	2	1	5	9	.....	2	6	2	3	.....	.....	.....	0.80	20.2
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	30.02	762.6	30.10	764.0	67.8	19.9	.....	2	2	1	7	9	1	6	2	.....	.....	.....	6	0.75	19.0
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.72	755.0	81.7	27.6	75	3r	2	.....	.....	1	.....	.....	6	.....	.....	.....	7	1.61	40.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.84	758.0	29.95	760.6	54.0	12.2	76	4	7	3	1	10	4	.....	1	.....	.....	.....	7	15.18	385.6
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.72	754.8	29.81	757.1	51.4	10.8	73	8	1	3	7	6	.....	1	1	3	.....	.....	8	6.33	160.8
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.74	755.5	29.93	760.2	57.2	14.0	57	2	.....	.....	10	10	.....	1	4	3	.....	.....	7	0.91	23.2
Gjæsvær	N. 71 00	E. 25 22	1.41 p.m.	23	7	29.61	752.1	29.69	754.0	44.8	7.1	.....	5	1	5	3	3	5	1	2	5	.....	.....	9	3.51	89.2
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.04	763.0	30.10	764.4	75.2	24.0	65	.....	1	.....	17	.....	9	2	.....	1	.....	.....	4	0.37	9.4
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.75	755.6	30.06	763.4	71.8	22.1	62	2	4	1	9	7	2	1	4	.....	.....	.....	4	0.91	23.2
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.08	764.0	30.13	765.3	73.4	23.0	69	9	2	4	8	4	.....	.....	1	2	.....	.....	4	5.77	146.5
Saint Vincent a	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.93	760.1	29.89	759.3	82.6	28.1	72	15	1	.....	.....	.....	.....	2	13	.....	.....	.....	5	9.19	233.4
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.08	713.1	29.83	757.7	78.1	25.6	58	.....	.....	3	4	.....	.....	.....	.....	23	.....	.....	6	0.20	5.0
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.37	644.4	30.00	761.9	58.3	14.6	66	1	1	4	3	3	4	7	7	.....	.....	.....	4	.....	.....
RUSSIAN.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.58	751.3	29.65	753.1	47.7	8.7	74	5	2	6	4	4	4	4	.....	1	.....	.....	9	.....	.....
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	30.04	763.0	29.99	761.7	78.6	25.9	66	11	.....	.....	1	6	5	6	1	.....	.....	.....	4	.....	.....
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	29.43	747.5	29.94	760.5	62.6	17.0	53	.....	2	3	10	1	1	.....	3	10	.....	.....	5	0.82	20.8
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.64	752.8	29.89	759.2	57.4	14.1	66	.....	8	3	11	3	2	2	1	.....	.....	.....	6	1.56	39.6
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.61	752.1	30.06	763.5	69.4	20.8	42	3	9	4	8	1	.....	3	1	1	.....	.....	5	0.04	1.0
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	28.72	729.5	29.73	755.1	52 3	11.3	67	1	2	13	9	3	1	.....	.....	1	.....	.....	8	1.86	47.2
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.51	724.1	30.12	765.0	54.7	12.6	76	.....	4	3	2	5	5	.....	.....	11	.....	.....	3	1.44	36.6
Kasanlinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.67	753.6	29.82	757.4	70.2	21.2	40d	1e	4	6	3	2	1	3	4	1	.....	.....	6d	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.50	749.3	29.77	756.1	54.7	12.6	66	3	1	9	8	3	5	.....	.....	1	.....	.....	8	.....	.....
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.62	752.3	29.73	755.1	49.3	9.6	72	2	8	6	4	.....	2	2	2	4	.....	.....	9	4.09	103.9
Kertch a	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.04	763.0	30.06	763.5	68.9	20.5	51	6	3	2	1	3	.....	4	9	1	.....	.....	3	.....	.....
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.41	747.0	30.06	763.5	65.7	18.7	63	2	6	12	2	6	.....	.....	1	1	.....	.....	4	0.64	16.3
Korost'shev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.40	746.7	.....	.....	68.4	20.2	50	3	10	3	6	.....	.....	.....	2	6	.....	.....	5	0.40	10.2
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.34	745.2	29.90	759.4	58.8	14.9	66	3	8	8	3	5	.....	.....	.....	3	.....	.....	6	.....	.....
Lgov	N. 51 38	E. 35 17	2.21 p.m.	518	158	29.42	747.3	29.99	761.7	65.1	18.4	56	3	3	10	9	1	.....	.....	.....	4	.....	.....	7	0.62	15.7
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.94	760.5	29.99	761.7	59.5	15.3	70	3	6	8	10	3	.....	.....	.....	.....	.....	.....	5	2.27	57.7
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.83	757.7	30.02	762.5	67.1	19.5	45	3	8	10	2	2	1	1	3	.....	.....	.....	5	1.73	43.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.36	745.7	29.88	758.9	56.7	13.7	65	1	15	5	5	4	.....	.....	.....	7	.....	.....	7	1.94	49.3
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	27.84	707.1	30.20	767.1	50.7	10.4	63	.....	2	.....	2	1	.....	.....	.....	25	.....	.....	2	.....	.....
Nikolnievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	30.00	762.0	30.06	763.5	71.4	21.9	44	9	2	3	.....	6	.....	5	2	3	.....	.....	4	0.68	17.3
Nertchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	29.66	753.4	29.76	755.9	48.0	8.9	86	1	3	2	.....	.....	4	3	14	.....	.....	.....	5	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.34	745.2	29.80	756.9	49.8	9.9	71	8	6	.....	3	2	6	4	.....	1	.....	.....	9	1.99	50.5
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.28	743.7	29.66	753.4	52.2	11.2	75	1	3	7	8	1	4	1	.....	5	.....	.....	8	2.64	67.1
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.65	753.1	29.97	761.2	76.3	24.6	.....	3	7	3	4	.....	.....	1	8	4	.....	.....	3	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.52	749.8	29.80	756.9	51.8	11.0	67	2	7	8	8	1	3	.....	.....	1	.....	.....	7	1.41	35.8
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.54	750.3	30.03	762.7	68.0	20.0	47	.....	6	8	4	4	3	.....	1	4	.....	.....	4	0.42	10.7
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	29.98	761.5	30.00	762.0	72.9	22.7	65	.....	.....	10	11	2	.....	2	2	3	.....	.....	5	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.78	756.4	29.84	757.9	54.7	12.6	66	1	7	14	3	2	2	.....	1	.....	.....	.....	6	2.50	63.5
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.52	699.0	29.98	761.5	71.8	22.1	.....	...	1	1	1	.....	3	2	.....	22	.....	.....	3	.....	.....
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.88	758.9	30.09	764.3	72.9	22.7	47	2	3	9	6	5	.....	.....	5	.....	.....	.....	4	0.30	7.6
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.31	719.1	29.94	760.5	75.6	24.2	40	1	3	4	2	1	.....	.....	.....	19	.....	.....	4	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.62	726.9	30.06	763.5	70.9	21.6	45	1	12	1	.....	3	10	2	.....	1	.....	.....	6	3.08	78.2
Troitskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.47	697.7	30.21	767.3	53.8	12.1	77	1	7	1	.....	.....	.....	.....	.....	21	.....	.....	3	0.74	18.8
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.08	738.6	29.74	755.4	50.4	10.2	74	2	11	4	5	4	2	2	.....	.....	.....	.....	8	1.89	48.0
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.61	752.1	30.05	763.3	67.6	19.8	50	3	5	9	4	3	3	2	1	.....	.....	.....	5	0.76	19.3
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	275?	84	29.71	754.6	30.04	763.0	55.9	13.3	77	1	.....	5	7	5	3	2	2	5	.....	.....	7	1.99	50.5
SCOTTISH.																										
Leith	N. 55 59	W. 3 10	11.47 a.m.	70	21	.....	.....	29.98	761.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	2.50	63.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.91	759.6	30.06	763.5	75.7	24.3	66	4	1	.....	1	9	6	5	4	.....	.....	.....	4	1.58	40.2
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.98	761.4	30.04	762.9	77.4	25.2	61	2	7	2	1	5	12	.....	1	.....	.....	.....	6	3.71	94.2
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.15	689.7	30.01	762.2	70.3	21.3	70	2	3	.....	6	11	3	1	4	.....	.....	.....	4	1.52	38.4
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.88	708.2	30.01	762.2	76.6	24.8	46	.....	.....	1	8	5	6	3	7	.....	.....	.....	4	1.57	40.0
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.11	739.4	30.00	762.0	71.1	21.7	68	2	.....	.....	8	7	2	.....	7	4	.....	.....	6	6.72	170.7
Sub-Series.																										
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.88	759.0	29.87	758.8	80.6	27.0	84	.....	.....	1	1	4	6	5	.....	13	.....	.....	4	6.17	156.8
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.92	760.0	29.94	760.5	75.9	24.4	88	.....	.....	.....	.....	.....	.....	9	18	3	.....	.....	3	4.58	116.2
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.80	756.8	29.79	756.7	80.6	27.0	87	2	1	3	2	19	1	2	.....	.....	5387	8668	8	9.18	233.1
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.99	761.8	30.06	763.4	77.5	25.3	63	.....	.....	13	6	3	.....	8	.....	.....	.....	.....	5	0.81	20.6

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for September, 1886.																		Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
SWEDISH.	° ′	° ′																								
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.69	754.0	29.78	756.3	49.3	9.6	70	a8	5	4	7	2	.....	1	2	.....	.....	.....	7	1.13	28.8
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.72	754.8	29.82	757.3	52.9	11.6	68	b3	8	4	10	.....	.....	.....	3	.....	.....	.....	7	2.15	54.5
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.76	755.8	29.85	758.2	54.3	12.4	60	a8	6	3	2	8	1	1	.....	.....	.....	.....	6	2.17	55.1
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.72	754.9	29.93	760.3	58.1	14.5	62	6	5	7	2	7	.....	.....	3	.....	.....	.....	5	1.60	40.7
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.82	757.5	29.91	759.8	58.8	14.9	67	6	3	13	4	2	.....	2	.....	.....	.....	.....	3	1.55	39.3
Sub-Series.																										
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.78	756.4	29.93	760.2	58.6	14.8	59	d4	4	8	6	1	1	.....	2	.....	.....	.....	6	0.89	22.7
SWISS.																										
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.69	728.8	30.07	763.8	70.5	21.4	63	16	.....	6	3	2	1	1	1	.....	.....	.....	.....	1.36	34.6
TURKISH.																										
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.02	762 6	74.1	23.4	56	8	1	.....	4	1	3	.....	13	.....	.....	.....	4	1.48	37.7
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.04	763.0	83.7	28.7	.....	.....	5	.....	18	5	2	.....	.....	.....	.....	.....	1	0.08	2.0
Sub-Series.																										
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	29.84	758.0	84.6	29.2	56	6	2	21	1	.....	.....	.....	.....	.....	.....	.....	2	0.52	13.3
UNITED STATES.																										
Atlantic states.																										
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	30.05	763.3	30.12	765.0	53.1	11.7	83	4	6	4	4	5	.....	4	.....	3	5379	8656	5	2.73	69.2
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	30.03	762.7	30.13	765.3	55.2	12.9	84	2	8	6	6	2	2	.....	2	2	5200	8627	4	5.50	141.2
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.91	607.3	30.12	765.0	37.8	3.2	87	1	7	10	9	1	1	.....	1	.....	.....	.....	3	8.52	210.4
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	30.02	762.5	30.14	765.5	59.7	15.4	81	4	8	7	3	2	2	2	2	.....	7680	12380	5	2.73	69.3
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.12	765.0	30.14	765.5	63.3	17.4	88	6	3	2	3	4	3	2	7	.....	8897	14318	4	2.90	73.7
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.10	764.5	30.14	765.5	62.1	16.7	84	6	4	.....	3	2	4	.....	6	4	4647	7478	6	3.09	93.7
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	30.05	763.3	30.15	765.8	58.8	14.9	85	6	5	2	1	1	.....	2	6	7	4548	7379	6	2.35	59.7
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.08	764.0	30.16	766.1	57.9	14.4	79	1	4	4	.....	13	1	.....	4	3	3800	6115	5	2.51	63.8
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.99	761.7	30.16	766.1	63.4	17.4	79	3	5	3	2	3	3	1	7	3	4633	7456	6	1.79	45.5
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	30.05	763.3	30.16	766.1	63.8	17.7	80	4	5	2	3	6	.....	3	7	.....	5980	9624	6	1.20	30.5
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.13	765 3	30.15	765.8	65.1	18.4	84	2	4	5	3	3	2	5	6	.....	10037	16146	5	1.06	26.9
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.15	765.8	30.15	765.8	66.2	19.0	86	8	2	3	5	1	3	3	4	1	6469	10397	5	0.89	22.6
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.12	765.0	30.15	765.8	64.5	18.1	80	7	4	3	1	6	1	.....	7	1	3442	5539	6	1.90	48.3
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.14	765.5	30.13	765.3	69.6	20.6	83	5	17	3	1	.....	1	.....	2	1	7129	11457	4	1.03	26.2
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.13	765.3	30.13	765.3	70.6	21.4	83	6	.....	2	5	4	1	3	6	3	9612	15469	4	4.98	126.5
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	29.49	749.0	30.16	766.1	63.9	17.7	91	2	4	1	3	2	.....	3	5	10	1761	2834	5	1.74	44.2
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	30.12	765.0	30.13	765.3	68.9	20 5	86	4	2	1	3	3	5	1	8	3	4254	6846	4	4.63	117.6
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.05	763.5	30.16	766.1	63.9	17.7	84	6	4	1	3	5	.....	1	7	3	3364	5414	6	1.79	45.5
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.14	765.5	30.12	765.0	71.7	22.1	86	1	.....	6	3	2	2	6	9	1	10865	16222	5	1.92	48.8
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.14	765.5	30.12	765.0	73.9	23.3	84	2	1	6	1	.....	1	1	14	5	5181	8355	4	4.11	104.4
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.12	765.0	30.10	764.5	72.3	22.4	87	7	1	3	4	2	4	1	7	1	9665	16037	4	1.70	43.2
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.09	764.3	30.10	764.5	71.4	21.9	90	2	4	4	1	1	2	3	13	.....	6336	10197	4	0.52	13.2
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	30.08	764 0	30.11	764.8	70.7	21.5	88	1	1	2	4	3	2	2	14	1	3930	6325	4	1.34	34.0
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.33	745.0	30.15	765.8	66.8	19.3	92	5	.....	.....	4	2	.....	2	10	7	3262	5250	4	0.08	17.3
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.08	764.0	30.10	764 5	72.7	22.6	89	11	3	2	1	.....	2	1	6	4	5323*a*	8566*a*	5	3.03	77.0
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	29.97	761.2	30.13	765.3	68.8	20.4	92	2	.....	1	1	3	3	4	11	5	2831	4556	4	0.65	10.5
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.03	762.7	30.09	764.3	72.6	22.6	92	9	1	2	3	3	1	4	7	.....	4592	7390	5	1.64	41.7
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.05	763.3	30.06	763.5	75.5	24.2	90	.....	.....	.....	.....	3	1	.....	4	13	3670	5906	5	4.91	124.7
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.08	764.0	30.06	763.5	76.3	24.6	87	1	2	2	1	.....	1	2	19	2	6646	10696	5	1.38	35.1
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	29.99	761.7	29.96	761.0	80.6	27.0	80	.....	.....	1	.....	2	5	17	4	1	7144	11497	6	7.10	180.3
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.01	762.2	30.00	762.0	76.4	24.7	89	5	1	4	3	1	2	2	12	.....	5440	8764	4	5.0:	127.3
Gulf states.																										
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	29.00	736.6	30.14	765.5	66.5	19.2	88	1	2	2	3	.....	5	9	7	1	5983	9682	4	0.53	13.5
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.04	763.0	30.03	762.7	75.0	23.9	84	4	2	.....	2	1	2	12	4	3	5586	8990	4	1.29	32.8
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.04	763.0	30.04	763.0	72.6	22.6	87	7	4	.....	1	2	4	.....	11	1	4913	7906	5	2.69	68.3
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.88	758.9	30.08	764.0	70.4	21.3	85	3	.....	1	2	2	5	9	6	2	3893	6265	4	1.12	28.4
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.85	758.2	30.05	763.3	70.4	21.3	90	1	.....	.....	3	2	12	9	2	1	3925	6310	5	5.13	130.3
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.00	762.0	30.02	762.5	74.3	23.5	90	2	1	2	.....	3	5	4	12	1	5524	8890	5	4.09	103.9
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.82	757.4	30.02	762.5	70.2	21.2	91	2	.....	2	.....	7	7	6	1	5	3329	5357	4	4.98	126.5
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.54	750.3	29.99	761.7	66.4	19.1	90	.....	1	.....	2	.....	4	19	2	2	3161	5087	5	4.22	107.2
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.74	755.4	30.01	762.2	67.1	19.5	92	1	3	1	.....	4	6	6	4	5	3362	5411	5	6.24	158.5
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	29.98	761.5	29.98	761.5	78.3	25.7	84	.....	.....	.....	1	8	8	5	8	.....	8947	14399	6	13.31	338.1
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.50	749.3	30.02	762.5	70.1	21.2	87	1	2	.....	1	9	2	9	6	.....	6058	9749	5	7.12	180.8
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.20	741.7	29.96	761.0	72.2	22.3	96	11	1	.....	.....	5	5	3	5	.....	6104	9823	5	4.12	104.6
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	29.88	758.9	29.89	759.2	74.9	23.8	98	7	1	2	.....	6	6	1	4	3	5595	9004	6	30.57	776.5
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.76	755.9	29.95	760.7	74.4	23.6	95	11	3	1	.....	.....	5	2	4	4	3749	6033	7	8.21	208.5
Ohio val. & Tenn.																										
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.35	745.5	30.14	765 5	64.3	17.9	89	3	1	4	5	4	5	2	3	4	2816	4532	4	1.11	28.2
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.16	740.7	30.17	766.3	64.2	17.9	90	3	.....	3	.....	1	1	3	7	12	2545	4069	5	1.88	47.8
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.77	756.1	30.08	764.0	67.3	19.6	87	4	2	1	4	2	5	4	7	.....	4157	6690	5	6.20	157.4
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.54	750.3	30.10	764.5	64.4	18.0	89	2	.....	.....	5	2	7	10	4	.....	3374	5430	4	3.68	93.5
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.55	750.6	30.12	765.0	62.7	17.1	86	2	4	1	3	8	3	2	2	5	3745	6027	4	1.63	41.4
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.17	740.9	30.10	764.5	60.5	15.8	86	3	2	1	7	2	8	3	.....	4	3224	5186	5	5.36	136.1
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.30	744.2	30.11	764.8	60.1	15.6	84	4	1	3	7	8	3	3	.....	1	3320	5343	5	3.43	87.1
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.48	748.8	30.13	765.3	61.7	16.5	89	2	.....	1	6	3	11	1	5	.....	4279	6886	4	1.30	33.0
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.27	743 4	30.12	765.0	58.8	14.9	86	3	3	3	1	9	5	4	.....	2	4359	7015	4	3.61	91.7
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.24	742.7	30.13	765.3	60.4	15.8	88	2	6	1	3	6	1	2	9	.....	3916	6302	3	2.86	72.6
Lake region.																										
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.44	747.8	30.11	764.8	56.9	13.8	85	.....	2	6	14	4	2	1	1	.....	7170	11539	4	2.90	73.7
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.37	746.0	30.11	764.8	58.8	14.9	79	1	1	8	1	11	3	3	2	.....	7263	11688	4	5.98	151.9
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.74	755.4	30.10	764.5	57.0	13.9	80	.....	5	2	3	11	6	2	1	.....	7044	11320	6	4.30	109.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.38	746 2	30.10	764.5	61.2	16.2	73	4	5	1	7	9	1	1	2	.....	6879	11070	5	3.26	82.8
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.44	747.8	30.11	764.8	60.2	15.7	83	3	1	4	11	7	2	1	1	.....	7715	12416	4	3.83	97.3
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.37	746.0	30.10	764.5	59.9	15.5	80	2	.....	1	6	8	12	.....	1	.....	6461	10398	4	4.04	102.6
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.42	747.3	30.11	764.8	58.7	14.8	85	1	3	3	10	5	3	1	2	2	4710	7580	5	6.17	156.7
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.38	746.2	30.09	764.3	60.3	15.7	85	5	4	3	9	3	1	4	1	.....	6034	9710	4	4.20	106.7
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.37	746.0	30.04	763.0	52.1	11.2	92	1	1	9	6	3	4	2	1	3	6533	10513	5	5.31	134.9
Escanaba	N. 45 45	W. 87 05	6.12 a.m.	608	185	29.33	745.0	29.99	761.7	51.1	10.6	87	4	1	10	4	8	1	1	1	.....	5328	8574	5	4.06	103.1
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.38	746.2	30.04	763.0	58.3	14.6	80	2	3	4	2	2	7	5	4	1	8265	13301	7	4.81	122.2
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.34	745.2	29.99	761.7	54.6	12.6	79	1	4	5	8	3	6	2	1	.....	7465	11999	6	3.84	97.5
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.24	742.7	29.97	761.2	51.4	10.8	83	.....	4	13	6	5	1	.....	1	7093	11415	6	1.94	49.3
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.39	746.5	30.08	764.0	55.2	12.9	89	1	4	3	4	11	4	1	2	.....	5737	9233	5	4.73	120.1
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.35	745.5	30.05	763.3	61.5	16.4	80	1	2	7	2	11	5	1	1	.....	5543	8920	5	6.93	176.0
Green Bay	N. 44 31	W. 87 54	6.09 a.m.	616	188	29.28	743.7	30.03	762.7	56.4	13.6	82	2	4	5	5	9	.....	1	4	.....	7556	12160	7	2.38	60.5
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.21	741.9	29.95	760.7	47.1	8.4	84	1	7	6	6	.....	1	.....	8	1	4607	7414	5	6.05	153.7
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.35	745.5	30.02	762.5	54.6	12.6	88	4	1	2	4	13	3	1	.....	2	4577	7366	6	3.58	90.9
Upper Miss. val.																										
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.07	738.4	29.97	761.2	52.2	11.2	87	.....	3	5	1	4	6	9	.....	2	5393	8679	7	3.69	93.7
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.25	742.9	30.03	762.7	56.5	13.6	85	1	5	2	2	16	3	.....	1	.....	5783	9307	5	3.21	81.5
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.38	746.2	30.03	762.7	59.4	15.2	81	1	6	4	4	7	4	.....	.....	4	5520	8883	5	2.43	61.7
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.12	739.6	30.01	762.2	58.8	14.9	85	7	.....	4	8	4	1	.....	3	3	4120	6630	5	7.93	201.4
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.32	744.7	30.02	762.5	57.7	14.3	81	1	6	2	2	10	4	1	1	3	3846	6190	5	3.10	78.7
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.38	746.2	30.03	762.7	61.9	16.6	82	4	2	3	5	5	5	4	.....	2	6331	10187	8	3.95	100.3
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.73	755.1	30.09	764.3	64.7	18.2	88	1	3	1	2	12	2	3	3	3	4409	7096	5	2.52	64.0
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.41	747.0	30.08	764.0	61.9	16.6	82	3	.....	2	7	9	2	1	.....	6	5404	8697	6	7.24	183.9
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.47	748.5	30.06	763.5	66.9	19.4	71	4	1	.....	7	10	6	1	1	.....	7842	12620	6	9.60	243.8

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for September, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.																										
Missouri valley.	° ′	°																								
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.16	740.7	30.03	762.7	62.7	17.1	82	9	3	.....	.....	13	3	.....	.....	2	5436	6748	5	2.75	69.8
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.85	732.8	30.02	762.5	58.0	14.4	85	2	3	1	3	12	5	.....	1	3	5534	8906	5	4.45	113.0
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.28	718.3	29.96	761.0	52.8	11.6	68	2	6	1	.....	2	3	1	.....	15	5238	8429	3	0.44	11.2
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.57	725.7	29.96	761.0	49.3	9.6	83	4	8	.....	3	2	7	1	1	4	5955	9583	4	1.59	40.4
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	374	28.64	727.4	29.95	760.7	54.6	12.6	84	4	7	4	2	6	3	3	1	.....	6184	9952	5	3.45	87.6
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.02	737.1	30.08	764.0	63.0	17.2	86	2	2	1	5	11	6	2	1	.....	6471	10414	4	5.96	151.4
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.30	693.4	29.98	761.5	49.7	9.8	44	1	11	4	8	.....	1	3	1	.....	8551	13761	4	1.18	30.0
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.92	734.6	29.93	760.2	45.1	7.3	85	3	3	7	4	7	5	1	.....	.....	7499	12068	5	1.31	33.3
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.04	737.6	29.93	760.2	41.7	5.4	91	2	9	7	2	7	1	2	.....	.....	6838	11004	5	3.20	81.3
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.14	714.7	29.94	760.5	44.9	7.2	78	6	11	.....	.....	1	2	5	2	3	6328	10184	3	0.38	9.7
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.92	709.2	29.91	759.7	42.6	5.9	81	1	7	7	3	2	.....	5	4	1	7944	12784	5	0.05	1.3
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.32	719.3	29.94	760.5	43.0	6.1	82	3	8	4	3	4	6	.....	1	1	10933	17595	4	0.87	22.1
Rocky Mount. reg.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.17	690.1	29.99	761.7	45.6	7.6	69	1	1	7	21	.....	.....	.....	.....	.....	7648	12298	6	1.47	37.3
Fort Benton	N. 47 50	W. 110 40	4.37 a.m.	2681	817	27.24	691.9	30.03	762.7	43.0	6.1	71	2	2	3	4	2	3	2	6	6	4086	6576	4	1.24	31.5
Fort Custer *a*	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.84	681.7	29.98	761.5	44.2	6.8	80	2	3	.....	5	8	10	.....	1	1	4715	7588	3	*a*0.66	*a*16.8
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.58	649.7	29.98	761.5	43.7	6.5	64	4	17	2	2	....	2	1	1	1	7192	11514	4	1.17	29.7
Fort Shaw	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.37	669.8	30.00	762.0	43.1	6.2	67	.....	8	10	5	.....	1	.....	2	4	2195	3532	4	1.10	27.9
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.86	656.8	30.00	762.0	45.5	7.5	68	.....	3	3	21	.....	.....	.....	2	1	5342	8597	4	2.40	61.0
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.83	706.9	29.95	760.7	41.7	5.4	82	2	3	13	.....	4	3	1	2	2	7196	11581	4	0.21	5.3
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.42	645.7	30.05	763.3	47.0	8.3	72	.....	.....	.....	12	2	.....	.....	1	15	1010	2591	2	1.06	26.9
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.06	611.1	29.98	761.5	46.4	8.0	69	5	17	3	1	.....	1	.....	2	1	5128	8253	5	1.05	26.7
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.09	688.1	30.00	762.0	51.8	11.0	85	5	5	8	6	.....	3	3	.....	.....	5826	9376	3	1.22	31.0
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	18.95	481.3	29.97	761.2	28.8	—1.8	80	2	6	12	6	.....	1	1	2	.....	11869*a*	19101*a*	2	0.71	18.0
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.56	725.4	29.99	761.7	60.9	16.1	76	6	1	1	4	11	.....	1	1	5	6218	10007	4	3.89	98.8
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.81	630.2	29.98	761.5	48.8	9.3	72	6	2	.....	1	18	1	.....	2	.....	4658	7496	3	0.98	24.9
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.08	662.4	29.94	760.5	52.1	11.2	82	2	4	9	2	3	.....	2	3	5	4203	6860	3	1.23	31.2
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2524	770	27.42	696.5	30.01	762.2	57.2	14.0	89	1	1	1	3	14	2	4	4	.....	7554	12157	4	2.33	59.2
Fort Sill	N. 31 40	W. 98 23	5.26 a.m.	1200	366	28.80	731.5	30.01	762.2	68.5	20.3	79	8	.....	.....	1	16	4	1	.....	.....	7465	12014	3	2.62	66.5
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.24	717 3	30.00	762.0	68.2	20.1	86	1	1	2	7	17	.....	.....	2	... ...	5433	8743	4	4.17	105.9
Fort Davis	N. 30 38	W. 103 59	5.04 a.m.	4928	1502	25.83	640.8	29.96	761.0	61.0	16.1	79	.....	2	11	6	.....	4	1	2	4	3930	6325	3	5.33	135.4
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1598?	24.06	611.1	29.93	760.2	48.9	9.4	80	2	8	10	2	3	2	.....	3	.....	3045	4900	4	4.29	109.0
Plateau region.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26.29	667.8	29.83	757.7	65.3	18.5	40	10	.....	.....	.....	.....	2	10	2	6	3737	6014	0	0	0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.37	593.6	30.03	762.7	50.1	10.1	76	2	.....	.....	.....	1	7	10	7	3	3847	6191	3	4.02	102.1
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.20	690.9	29.88	758.9	61.2	16.2	82	.....	.....	2	7	4	1	5	1	10	2628	4229	2	1.18	30.0
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.08	637 0	30.01	762.2	52.9	16.6	77	.....	4	.....	1	.....	2	13	6	4	4342	6988	2	3.16	80.3
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.23	640.8	29.94	760.5	63.0	17.2	63	6	3	.....	2	1	1	9	8	.....	5335	8586	2	3.49	88.0
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.70	628 9	29.94	760.5	52.4	11.3	70	.....	.....	1	10	.....	4	.....	.....	15	3576	5755	1	0.46	11.7
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.64	752.8	29.74	755.4	73.2	22.9	70	1	1	1	1	1	1	3	13	8	2909	4778	0	0	0
El Paso *i*	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.29	667.8	29.96	761.0	63.7	17.6	81	.....	1	5	.....	.....	.....	6	4	5	2202	3544	4	1.16	29.5
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.57	598.7	30.04	763 0	40.5	4.7	69	.....	3	3	17	5	1	.....	1	.....	6666	10728	2	0.06	5.2
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.05	651.5	29.96	761.0	54.4	12.4	68	3	1	.....	1	1	9	6	7	2	3734	6009	2	1.88	47.8
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.76	603.5	29.85	758.2	57.1	13.9	40	13	5	5	7	.....	.....	.....	.....	.....	6783	10916	1	0.11	2.8
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.66	651.8	30.01	762.2	44.0	6.7	35	.....	.....	.....	.....	12	1	.....	3	14	4735.	7620	0	0	0
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.35	618.5	29.95	760.7	48.9	9.4	66	.....	.....	.....	.....	1	6	18	4	1	4394	7072	2	1.06	26.9
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.46	616.7	30.07	763.8	49.2	9.6	50	9	15	2	4	.....	.....	.....	.....	.....	3159	5084	1	0	0
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.21	691.1	30.04	763.0	46.4	8.0	63	.....	6	.....	.....	3	12	3	2	4	2399	3861	1	Inap.	Inap.
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	27.98	710.7	30.00	762.0	46.3	7.9	66	.....	2	10	4	2	.....	.....	1	11	3141	5055	2	1.00	25.4
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.95	735.3	30.03	762.7	56.1	13.4	52	.....	... .	.....	.....	5	18	6	.....	1	4574	7361	2	0.06	1.5
Pacific coast reg'n.																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.80	756.9	30.00	762.0	57.0	13.9	84	8	1	9	5	5	.....	.....	2	.....	7335	11804	4	3.14	79.8
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.00	762.0	30.04	763 0	50.0	10.0	94	.....	2	1	5	8	2	3	7	2	2507	4035	4	3.17	80.5
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.01	762.2	30.03	762.7	46.7	8.2	97	.....	.....	.....	.....	28	1	.....	.....	1	2789	4487	4	1.68	42.7
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.90	759.4	30.00	762.0	52.1	11.2	93	.....	1	.....	8	2	4	9	5	1	7982	12846	4	5.54	140.7
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	29.93	760.2	30.02	762.5	55.2	12.9	85	.....	8	.....	3	6	3	2	1	7	4011	6455	3	1.19	30.2
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.49	749.0	30.05	763.3	51.0	10.6	86	3	.....	1	.....	1	.....	3	5	17	2264	3644	2	0.33	8.4
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.31	744.5	29.98	761.5	54.7	12.6	83	16	1	.....	.....	1	4	1	5	2	11360	18282	3	0.15	3.8
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.82	757.4	29.87	758.7	57.2	14.0	76	1	4	.....	.....	1	15	1	1	7	3364	5414	0	0	0
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	29.88	758.9	29.92	760.0	55.0	12.8	88	1	1	12	13	.....	.....	.....	1	2	6325	10179	0	0.01	0.3
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.54	750.3	29.87	758.7	57.1	13.9	92	1	2	15	.....	2	2	.....	2	6	3375	5414	4	0.11	2.8
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.83	757.7	29.87	758.7	64.0	17.8	90	5	.....	5	3	4	.....	.....	5	8	3923	6313	9	0	0
Sitka	N. 57 03	W. 135 19	2.59 a.m.	63	19	29.81	757.2	29.91	759.7	51.6	10.9	88	.....	3	.....	17	.....	5	.....	.....	5	5975	6916	8	25.52	648.2
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.00	558.9	.....	.....	58.1	14.5	71	3	15	7	1	2	1	1	.....	.....	.....	.....	7	5.79	147.1
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.90	759.4	77.3	25.2	84	22	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	6	2.55	64.8
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.01	762.2	29.93	760.2	80.3	26.8	83	.....	.....	.....	.....	2	3	23	2	.....	.....	.....	4	2.34	59.5
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	29.91?	759.5?	30.06?	763.5?	74.6	23.7	81	... ...	9	2	4	3	6	4	2	.....	.....	.....	4	15.30	388.6
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14.01	355.9

SPECIAL NOTES.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity. Miles per hour.	Velocity. Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

OCEAN SQUARE DATA FOR SEPTEMBER, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5	29.87	758.7	83.0	28.3	6	4	6	.....	1	2	2	9	.....	.....	3.7
12.5 27.5	29.90	759.4	81.9	27.7	6	5	1	2	1	3	3	8	1	.....	3.8
12.5 32.5	29.91	759.7	80.5	26.9	5	.....	1	.....	3	3	3	15	.....	.....	3.9
12.5 37.5	29.93	760.2	80.2	26.8	2	.....	.....	.....	.....	5	11	10	1	1	3.8
12.5 42.5	29.94	760.5	80.3	26.8	.....	.....	.....	.....	.....	2	20	6	.....	2	3.9
12.5 47.5	29.94	760.5	80.5	26.9	.....	.....	.....	.....	1	4	20	3	.....	2	3.6
12.5 52.5	29.92	760.0	80.9	27.2	.....	.....	.....	.....	1	10	19	.....	.....	.....	3.0
17.5 22.5	29.90	759.4	81.7	27.6	1	.....	.....	.....	.....	.....	5	24	.....	.....	4.5
17.5 27.5	29.93	760.2	81.0	27.2	2	.....	.....	.....	.....	.....	4	24	.....	.....	4.4
17.5 32.5	29.97	761.2	79.6	26.4	.....	.....	.....	.....	.....	.....	14	16	.....	.....	4.6
17.5 37.5	29.98	761.5	79.2	26.2	.....	.....	.....	.....	.....	.....	21	9	.....	.....	4.3
17.5 42.5	29.98	761.5	79.9	26.6	.....	.....	.....	.....	.....	3	22	5	.....	.....	4.4
17.5 47.5	29.98	761.5	80.6	27.0	.....	.....	.....	.....	.....	5	25	.....	.....	.....	4.0
17.5 52.5	29.96	761.0	81.6	27.6	.....	.....	.....	.....	1	8	21	.....	.....	.....	3.8
17.5 57.5	29.93	760.2	83.2	28.4	.....	.....	.....	.....	1	9	20	.....	.....	.....	3.6
22.5 22.5	29.98	761.5	79.6	26.4	2	.....	.....	.....	.....	.....	18	10	.....	.....	4.3
22.5 27.5	30.00	762.0	79.2	26.2	1	.....	.....	.....	.....	.....	15	14	.....	.....	4.3
22.5 32.5	30.03	762.7	78.8	26.0	.....	.....	.....	.....	.....	.....	16	14	.....	.....	4.2
22.5 37.5	30.05	763.3	78.7	25.9	.....	.....	.....	.....	.....	.....	20	10	.....	.....	4.2
22.5 42.5	30.05	763.3	79.7	26.5	.....	.....	.....	.....	.....	1	27	2	.....	.....	4.1
22.5 47.5	30.04	763.0	80.6	27.0	.....	.....	.....	.....	1	4	23	.....	.....	2	3.9
22.5 52.5	30.02	762.5	81.4	27.4	.....	.....	.....	.....	2	8	19	.....	.....	1	3.9
22.5 57.5	29.99	761.7	82.3	27.9	.....	.....	.....	.....	1	13	15	.....	.....	1	4.0
22.5 62.5	29.97	761.2	81.9	27.7	.....	.....	.....	1	1	12	16	.....	.....	.....	4.2
22.5 67.5	29.94	760.5	81.9	27.7	1	3	.....	1	1	9	11	4	.....	.....	4.4
22.5 72.5	29.93	760.2	82.1	27.8	2	1	1	.....	.....	9	11	5	1	.....	3.6
27.5 22.5	30.06	763.5	77.3	25.2	2	.....	1	.....	2	1	12	12	.....	.....	3.9
27.5 27.5	30.07	763.8	77.2	25.1	4	.....	.....	.....	.....	3	8	15	.....	.....	4.0
27.5 32.5	30.13	765.3	77.1	25.1	1	.....	.....	.....	3	2	11	13	.....	.....	3.6
27.5 37.5	30.12	765.0	77.7	25.4	2	.....	.....	.....	2	4	13	7	.....	2	3.8
27.5 42.5	30.12	765.0	78.7	25.9	2	.....	.....	.....	1	8	13	5	.....	1	3.7
27.5 47.5	30.11	764.8	79.6	26.1	.....	.....	.....	1	1	6	15	5	.....	2	4.0
27.5 52.5	30.08	764.0	80.1	26.7	.....	.....	.....	.....	3	8	13	2	1	3	4.0
27.5 57.5	30.06	763.5	80.5	26.9	.....	.....	.....	.....	3	11	11	2	.....	3	4.0
27.5 62.5	30.04	763.0	80.8	27.0	1	.....	.....	.....	2	14	11	2	.....	.....	4.0
27.5 67.5	30.02	762.5	81.1	27.3	3	.....	.....	.....	4	9	11	3	.....	.....	4.6
27.5 72.5	30.00	762.0	81.4	27.4	1	1	1	2	4	7	11	3	.....	.....	4.1
27.5 77.5	30.00	762.0	81.1	27.3	2	1	.....	2	3	3	17	1	1	.....	3.7
32.5 12.5	30.07	763.8	75.2	24.0	3	3	8	1	2	3	6	4	.....	.....	3.2
32.5 17.5	30.10	764.5	75.0	23.9	7	2	5	1	5	2	2	5	1	.....	3.1
32.5 22.5	30.10	764.5	74.9	23.8	4	3	4	1	2	4	5	7	.....	.....	3.9
32.5 27.5	30.12	765.0	75.0	23.9	7	4	1	1	.....	4	3	9	1	.....	3.4
32.5 32.5	30.15	765.8	75.2	24.0	3	3	1	2	3	2	2	13	1	.....	3.1
32.5 37.5	30.16	766.1	76.0	24.4	3	2	2	2	3	4	4	7	1	1	3.3
32.5 42.5	30.15	765.8	76.7	24.8	5	3	.....	3	3	4	6	4	1	1	3.9
32.5 47.5	30.15	765.8	77.3	25.2	6	2	.....	1	4	5	6	5	.....	1	4.1
32.5 52.5	30.14	765.5	77.7	25.4	2	.....	1	2	5	6	6	4	1	3	4.1
32.5 57.5	30.12	765.0	77.9	25.5	4	.....	.....	3	5	6	7	3	1	1	4.0
32.5 62.5	30.11	764.8	78.0	25.6	2	1	1	3	4	8	6	5	.....	.....	3.9
32.5 67.5	30.08	764.0	78.2	25.7	.....	.....	1	4	3	4	12	5	1	.....	4.3
32.5 72.5	30.07	763.8	78.4	25.8	1	3	1	5	.....	2	14	4	.....	.....	4.8
32.5 77.5	30.09	764.3	75.7	24.3	4	1	3	3	.....	2	6	9	2	.....	3.9
37.5 12.5	30.06	763.5	71.8	22.1	5	5	6	7	3	.....	2	2	.....	.....	4.1
37.5 17.5	30.07	763.8	71.5	21.9	6	5	6	6	1	2	1	3	.....	.....	4.0
37.5 22.5	30.09	764.3	71.7	22.1	9	2	11	2	1	1	.....	2	2	.....	3.7
37.5 27.5	30.02	765.0	72.0	22.2	4	6	6	6	2	1	1	4	.....	.....	4.0
37.5 32.5	30.13	765.3	72.5	22.5	4	6	6	5	2	1	.....	6	.....	.....	4.3
37.5 37.5	30.14	765.5	73.0	22.8	4	6	4	5	2	.....	3	6	.....	.....	4.2
37.5 42.5	30.15	765.8	73.1	22.8	4	6	1	7	2	4	4	1	1	.....	3.8
37.5 47.5	30.17	766.3	73.0	22.8	2	5	3	4	2	4	2	6	1	1	4.0
37.5 52.5	30.15	765.8	73.2	22.9	3	5	2	5	7	2	2	4	.....	.....	4.4
37.5 57.5	30.14	765.5	73.0	22.8	2	5	2	5	7	4	3	1	1	.....	4.5
37.5 62.5	30.14	765.5	72.2	22.3	4	2	1	4	4	3	6	6	.....	.....	4.2
37.5 67.5	30.12	765.0	71.8	22.1	2	4	.....	4	6	4	9	1	.....	.....	4.5
37.5 72.5	30.03	762.7	71.4	21.9	4	4	2	2	4	4	5	5	.....	.....	4.2
42.5 12.5	30.01	762.2	71.3	21.8	2	2	6	9	2	2	1	5	.....	.....	4.0
42.5 17.5	30.02	762.5	68.2	20.1	4	3	5	8	3	1	2	4	.....	.....	4.5
42.5 22.5	30.03	762.7	68.2	20.1	4	5	7	7	1	.....	1	5	.....	.....	5.0
42.5 27.5	30.05	763.3	68.5	20.3	4	6	9	5	1	.....	1	4	.....	.....	5.2
42.5 32.5	30.07	763.8	68.5	20.3	6	6	9	3	2	.....	1	3	.....	.....	4.8
42.5 37.5	30.09	764.3	68.6	20.3	5	5	8	4	.....	4	2	1	1	.....	4.4
42.5 42.5	30.12	765.0	67.9	19.9	5	6	5	7	4	.....	1	1	1	.....	4.6
42.5 47.5	30.12	765.0	65.7	18.7	5	6	6	4	6	.....	.....	3	.....	.....	3.7
42.5 52.5	30.13	765.3	64.5	18.1	4	3	6	4	5	2	4	2	.....	.....	4.6
42.5 57.5	30.14	765.5	65.1	18.4	3	3	5	4	4	3	3	5	.....	.....	4.7
42.5 62.5	30.13	765.3	63.3	17.4	5	3	4	5	3	2	5	2	1	.....	4.1
42.5 67.5	30.13	765.3	60.0	15.6	5	5	4	2	4	1	3	2	4	.....	3.4
47.5 12.5	29.96	761.0	64.5	18.1	.....	4	4	9	4	1	3	5	.....	.....	3.7
47.5 17.5	29.94	760.5	63.4	17.4	5	2	4	11	1	1	2	3	1	.....	5.3
47.5 22.5	29.91	759.7	62.7	17.1	2	4	10	8	1	.....	1	2	2	.....	5.1
47.5 27.5	29.93	760.2	62.4	16.9	1	7	11	6	.....	1	1	2	1	.....	5.5
47.5 32.5	29.94	760.5	61.4	16.3	1	13	6	5	2	.....	.....	2	1	.....	5.4
47.5 37.5	29.98	761.5	61.5	16.4	3	9	8	5	3	1	.....	1	.....	.....	5.2
47.5 42.5	30.01	762.2	57.9	14.4	3	10	4	9	2	.....	1	1	.....	.....	5.6
47.5 47.5	30.03	762.7	54.0	12.2	5	6	4	11	3	.....	.....	1	.....	.....	3.7
52.5 12.5	29.91	759.7	58.6	14.8	2	2	8	8	.....	5	2	3	.....	.....	5.3
52.5 17.5	29.85	758.2	58.1	14.4	2	3	7	7	2	4	1	2	2	.....	4.7
52.5 22.5	29.82	757.4	57.9	14.4	4	3	8	7	1	4	3	.....	.....	.....	5.3
52.5 27.5	29.81	757.2	56.5	13.6	2	5	11	4	1	4	1	2	.....	.....	5.3
52.5 32.5	29.81	757.2	54.9	12.7	3	11	5	7	3	1	.....	.....	.....	.....	3.7
52.5 37.5	29.82	757.4	53.8	12.1	2	10	7	8	1	.....	.....	1	.....	1	5.3
52.5 42.5	29.82	757.4	51.6	10.9	4	10	3	10	2	.....	.....	.....	.....	1	5.3
52.5 47.5	29.84	757.9	48.7	9.3	2	7	9	8	2	1	.....	.....	.....	1	5.7
57.5 12.5	29.81	757.2	54.8	12.7	1	2	10	6	6	3	1	.....	.....	.....	5.0
57.5 17.5	29.79	756.7	53.6	12.0	1	2	9	6	4	4	.....	3	.....	1	5.0
57.5 22.5	29.75	755.6	53.4	11.9	2	4	8	7	3	4	1	1	.....	.....	4.9
57.5 27.5	29.69	754.1	51.9	11.1	1	4	9	6	1	6	.....	.....	1	1	4.7
57.5 32.5	29.69	754.1	46.9	8.3	5	5	2	4	1	4	.....	.....	.....	9	4.8
57.5 37.5	29.67	753.6	44.5	6.9	4	7	2	4	1	3	1	.....	.....	8	4.9
57.5 42.4	29.68	753.9	.....	.....	1	8	1	.....	4	2	1	.....	.....	13	5.0
57.5 47.5	29.74	755.4	.....	.....	2	8	3	.....	2	1	.....	2	.....	12	5.5

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

REVIEW.

INTERNATIONAL METEOROLOGY FOR SEPTEMBER, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of September, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean barometric pressure occupies an elongated area extending over British India from the Gulf of Bengal to the valley of the Indus River in latitude N. 30°; this area is bounded by the isobar of 29.60 (751.8), and includes mean values ranging to 29.55 (750.6) at Lahore. A second area of low mean pressure is located over the north Atlantic Ocean, and the isobar of 29.70 (754.4), which forms its southern boundary, extends southwest from Iceland to the fifty-fifth parallel, and thence passes northwest off the southern extremity of Greenland; this area evidently extends over the ocean northeast of Iceland, and the isobar of 29.70 (754.4), if continued from Iceland, would doubtless connect with a line of similar mean pressure, which is traced southeast through northern Scandinavia and Finland, and bounds an area of low mean pressure which occupies northern Russia. An area of relatively low mean pressure is charted over the Sea of Okhotsk, with reported barometric minimum 29.76 (755.9) at Nikolaevsk.

The area of highest mean pressure is located over the interior of Asia, with barometric maxima ranging to about 30.30 (769.6) in N. 52°, E. 115°. The isobar of 30.10 (764.5) includes a small area of mean high pressure over central Europe. Over the north Atlantic Ocean an elongated area of high mean pressure extends from off the northwest coast of Africa, in N. 34°, westward to, and over, the American continent to the eighty-seventh meridian. This area is bounded by the isobar of 30.10 (764.5), which is traced from Nova Scotia south of east over the Azores.

Over the north American continent the mean pressure is highest in the east-central districts of the United States, where it ranges to 30.17 (766.3) at Knoxville, Tenn., and lowest in the Saskatchewan Valley and over Arizona and southern California, where it ranges below 29.90 (759.4). Over the north Atlantic Ocean the barometric gradient is 0.50 of an inch over mid-ocean between the thirty-fifth and fifty-seventh parallels. Over Europe a range of about 0.50 of an inch is shown between southwest Germany and northern Russia. Over Asia the gradient is about 0.75 of an inch between the centre of the high barometer area over the central portion of the continent and British India, and about 0.55 of an inch between the west coast of the Sea of Okhotsk and the one hundred and fifteenth meridian.

As compared with the chart for the preceding month, an increase in mean pressure is shown in nearly all parts of the United States, the only exceptions being a small area in northern Minnesota and Dakota, and the stations of Brownsville, Tex., Yuma, Ariz., and Fort Canby, Wash., where the mean pressure coincides with, or is slightly below, that of August. To the eastward of the Mississippi Valley the increase varies from .10 to .15 of an inch. Over the central and western sections the increase varies from .01 to .12 of an inch, being greatest in Idaho, Nevada, and the western portion of Washington Territory. In the British Possessions in North America slight changes have occurred in mean pressure to the westward of the ninetieth meridian, while to the eastward of the Great Lakes there has been an increase of .10 to .15 of an inch. Over the north Atlantic Ocean slight changes are shown in the limits and included mean values of the low barometer area in the vicinity of Iceland, while the area of high pressure has extended westward, with maximum readings about .10 of an inch lower than in August. Over Europe there has been a general increase in mean pressure, the greatest change being over the west-central portion, where it amounts to about .15 of an inch. Over Asia there has been an increase of about .10 of an inch within the area of low mean pressure over British India, while within the area of high barometer in the vicinity of the fiftieth parallel the increase amounts to about .27 of an inch.

In the United States the mean pressure for the month, when compared with the normal, showed very small departures. The exceptions were a small area covering the northern part of Minnesota and Dakota, where the mean pressure was .05 below the normal; at Tatoosh Island, Wash., where an excess of .07 occurred; along the Atlantic coast, where the excess varied from .04 to .08, and in the lower lake region, where the means were from .02 to .04 in excess of the normal. In Canada the average pressure was above the normal at all stations east of the Great Lakes, the excess being greatest at Halifax, N. S., where it amounted to .09 of an inch. In the Northwest Territories it was below the normal obtained from three years. Over the British Isles the mean pressure averaged .07 of an inch above the normal. Over the continent of Europe the mean pressure was in excess of the normal by amounts ranging from .02 in Spain to .13 in Austro-Hungary, and deficient by from .02 in Norway to .09 of an inch in Russia. In British India the mean pressure was normal. At Zi-Ka-Wie, China, and at Tokio, Japan, the mean pressure was above the normal .01 and .02 of an inch, respectively.

In the United States the departures from the normal temperature for the month were very small. Over the eastern half of the country the month was about one degree warmer than the average September, while along the northern border and in the Rocky Mountain districts the mean temperature was slightly below the normal. In Canada the average temperature was below the normal, except along the shores of Lakes Erie and Huron, by values ranging from about four degrees in Manitoba to two degrees at Rockliffe. In Nova Scotia the mean temperature was about normal, and at Victoria, B. C., it was 1°.5 higher than the normal for five years. In the British Isles the mean temperature averaged between two and three degrees above the normal for nine years. Over the continent of Europe the mean temperature was above the normal, except in Norway, Sweden, and Russia, where it varied from normal to 4° below, by amounts ranging from 1°.6 in Spain to 5°.3 in France. In British India the means averaged 1°.2 above normal. At Zi-Ka-Wie, China, the weather was about 3° warmer than the average, while at Tokio, Japan, the mean temperature was over two degrees below the normal.

The following table shows the mean pressure and mean temperature for September, 1886, in the several countries of the eastern hemisphere, and the departures, as compared with the means determined from observations taken during the last nine years. In the preparation of this table the mean gravity correction for each country has been applied:

Countries.	Mean pressure.			Mean temperature.		
	Sept. mean of 9 (1877–'85) years.	Sept., 1886.	Departure.	Sept. mean of 9 (1877–'85) years.	Sept., 1886.	Departure.
				°	°	°
Austro-Hungary	29.95	30.08	+ 0.13	66.3	71.0	+ 4.7
British Isles	29.94	30.01	+ 0.07	58.1	60.7	+ 2.6
Denmark	29.91	29.99	+ 0.08	58.6	60.6	+ 2.0
France	29.99	30.07	+ 0.08	66.8	72.1	+ 5.3
Germany	29.98	30.09	+ 0.11	62.9	67.5	+ 4.6
India	29.64	29.64	normal.	83.3	84.5	+ 1.2
Italy	29.95	30.06	+ 0.11	74.0	76.1	+ 2.1
Norway	29.86	29.84	− 0.02	55.8	51.8	− 4.0
Russia	29.97	29.86	− 0.09	62.2	60.4	− 1.8
Spain*	30.01	30.03	+ 0.02	72.6	74.2	+ 1.6
Sweden	29.93	29.87	− 0.06	55.2	55.2	normal.

* Means for eight years only.

The accompanying table shows the deviation in pressure and temperature at isolated stations during the month of September, 1886, as compared with the means for nine years.

Stations.	Mean pressure.			Mean temperature.		
	Sept. mean of 9 (1877–'85) years.	Sept., 1886.	Departure.	Sept. mean of 9 (1877–'85) years.	Sept., 1886.	Departure.
				°	°	°
Archangel, Russia	29.99	29.65	− 0.34	49.6	47.7	− 1.9
Athens, Greece	29.94	29.98	+ 0.04	82.8	81.9	− 0.9
Beirut, Turkey in Asia	29.83	29.84	+ 0.01	84.4	84.6	+ 0.2
Barnaul, Siberia	29.94	29.94	normal.	55.6	62.6	+ 7.0
Bridgetown, Barbadoes	29.87	29.84	− 0.03	83.4	84.3	+ 0.9
Ekaterinburg, Russia	29.93	29.73	− 0.20	52.0	52.3	+ 0.3
Fort Napier, Natal, S. Africa*	29.89	29.98	+ 0.09	73.1	78.7	+ 5.6
Freetown, Sierra Leone	29.79	.....	.....	82.4	.....	.....
Funchal, Madeira Islands	30.10	30.10	normal.	75.0	75.2	+ 0.2
Gibraltar*	30.02	30.08	+ 0.06	74.8	75.9	+ 1.1
Havana, Cuba, W. I.	29.91	29.94	+ 0.03	79.3	75.9	− 3.4
Malta, Mediterranean Sea	29.96	30.00	+ 0.04	80.5	78.5	− 2.0
Melbourne, New South Wales	30.01	30.00	− 0.01	52.4	53.9	+ 1.5
Mauritius, Indian Ocean	30.08	30.10	+ 0.02	72.9	72.7	− 0.2
Nassau, Bahamas, W. I.	29.93	29.97	+ 0.04	82.9	82.6	− 0.3
Nikolaevsk-on-the-Amoor, Asia	.....	29.76	.....	48.2	48.0	− 0.2
Paramaribo, D. Guiana, S. A.	29.93	29.93	normal.	81.0	80.3	− 0.7
Ponta Delgada, Azores	30.19	30.13	− 0.06	73.5	73.4	− 0.1
Swanbister, Orkneys	29.89	29.94	+ 0.05	53.6	60.5	+ 6.9
San Juan de Puerto Rico, W. I.	29.92	29.87	− 0.05	81.0	80.6	− 0.4
Stykkisholm, Iceland	29.68	.....	.....	45.8	.....	.....
Thorshavn, Färöe Islands	29.83	.....	.....	50.9	.....	.....
Tiflis, Russia	29.94	30.06	+ 0.12	75.8	70.9	− 4.9
Tokio, Japan	29.93	29.95	+ 0.02	70.1	72.6	+ 2.5
Yeniseisk, Siberia	30.02	30.04	+ 0.02	46.9	55.9	+ 9.0
Zi-Ka-Wei, China	29.88	29.89	+ 0.01	70.8	67.6	− 3.2

* Means for eight years only.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Lahore, India	94.6	34.8	Minnedosa, British America	34.2	1.2
Beirut, Turkey in Asia	84.6	29.2	Poplar River, Mont. Ter.	41.7	5.4
Bridgetown, Barbadoes	84.3	29.1	Gjaesver, Norway	44.8	7.1
Nassau, Bahamas	82.6	28.1	Archangel, Russia	47.7	8.7
Saint Vincent, Cape Verde Isl's.	82.6	28.1	Hobart Town, Tasmania	48.5	9.2
Pakhoi, China	82.1	27.8	Sitka, Alaska	51.6	10.9

In the United States north to east winds prevailed along the Atlantic coast; in the Mississippi Valley they were mostly southerly; in the Rocky Mountain regions they were variable, while along the Pacific slope north to west winds were most frequently noted. In Canada and over the Great Lakes the winds were from south to west. Over the north Atlantic Ocean the wind-directions were governed by the cyclonic and anti-cyclonic systems which appear on the monthly mean chart. Over the British Isles south to west winds prevailed. Over the continent of Europe west of the thirtieth meridian the winds were variable, while to the eastward of that longitude they were generally from north to west. Over British India the wind-directions were cyclonic. Off the coast of China they were from the northeast. Over south-

ern Hondo, Japanese Islands, northerly winds prevailed, while to the northward of the thirty-fifth parallel they were southerly east of longitude 130°.

In the United States the rainfall was largely deficient in the Ohio Valley, east Gulf states, and all states bordering on the Atlantic Ocean, producing a drought. In the west Gulf states and in the Rio Grande Valley the precipitation was largely in excess of the normal. In northern Texas and Indian Territory a disastrous drought prevailed. In other portions of the country the rainfall was generally in excess of the normal. In Canada there was a considerable excess in rainfall in Ontario. In Quebec and the Maritime Provinces the rainfall was also above the normal; along the north shore of Lake Superior the amount was almost phenomenal, while in Manitoba the average amount fell somewhat below the usual quantity. In the British Isles the rainfall was deficient over the middle and eastern portions of England. In the west and northwest districts and over Ireland and Scotland large amounts were reported in many localities.

TRACKS OF AREAS OF LOW PRESSURE FOR SEPTEMBER, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during September, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i, for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-five areas of low pressure are shown, of which, eleven are traced over the North American continent; eight over the north Atlantic Ocean; six over Europe, and ten off the eastern coast of Asia, over the Japanese Islands, and the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of September during the last fourteen years is 9.2, or 2.8 less than the number charted for September, 1886.

Of the depressions traced over the North American continent, two were continuations of storms which first appeared over the north Pacific Ocean; one severe storm passed northward along the west coast of the Gulf of Mexico, whence it had advanced westward from the Windward Islands over the Caribbean Sea and the Gulf, and passing east of north apparently dissipated in the upper Mississippi valley; four depressions moved north of east from the Rocky Mountain regions to the Lakes, and the remaining depressions traced passed eastward north of the forty-fifth parallel. No areas of low pressure were traced over the states bordering on the Atlantic, and there was generally an absence of barometric depressions over the entire area south of the Lake region. These depressions are described in detail in the MONTHLY WEATHER REVIEW for September, 1886, under the heading "Areas of low pressure."

Of the eight depressions traced as north Atlantic storms, two were continuations of areas of low pressure which first appeared over the North American continent; one is given a northwest course from the vicinity of the Windward Islands; one apparently developed over the Gulf of Saint Lawrence; one first appeared to the eastward of the Azores, and three originated over the ocean, one to the northeastward, and two to the southward, of Newfoundland. Two storms traversed the ocean from coast to coast, and, with two exceptions, the depressions pursued normal paths. The depressions traced were rather evenly distributed during the month, and each decade embraced storms of considerable violence along the trans-Atlantic tracks. Violent cyclonic disturbances were reported over, and to the northward of, the West Indies during the second and third decades of the month, attending the passage of depressions numbers vii and xix.

Number xii was central on the 1st over the Gulf of Saint Lawrence, whence it is given an east-northeast track to the south of Iceland by the 5th, where it remained nearly stationary as an area of low pressure until the 11th, after which it advanced northeast and disappeared north of Scandinavia after the 13th. During the period this depression was central northwest of the British Isles it acquired great energy, and advices from Glasgow, under date of the 6th, stated that the heaviest rain storm ever know in that part of Scotland occurred there and over the western portion of the country, causing much damage to the crops. The forward movement of this depression was apparently checked during the 5th and 6th by an area of high barometer central over Scandinavia, after which the giving away to the southeastward of the high pressure area removed any visible obstacle to the eastward advance of the depression. Number xiii was a continuation of land depression number ii which moved eastward over northern Newfoundland and disappeared over the ocean after the 12th. Number xiv first appeared over the ocean between Portugal and the Azores on the 14th; by the 15th the depression had moved southeast, after which it circled northward and united with number xv over mid-ocean.

Number xv apparently developed over the ocean northeast of Newfoundland on the 16th. Advancing south of east by the 17th the depression described an irregular path over mid-ocean during that and the two following dates, its eastward progress being apparently obstructed by an area of high barometer overlying the British Isles and the North Sea. With the disappearance to the northward of the high pressure area the depression moved southeast and east to the English Channel by the 22d, accompanied during the 20th and 21st by barometric pressure ranging below 29.40 (746.7), and disturbances of great violence. Number xvi was a continuation of land depression number vi, which passed over northern Newfoundland on the 21st, slowly pursued a normal east-northeast track to Scandinavia by the 28th, with a marked display of energy throughout. Number xvii appeared southeast of Newfoundland on the 25th and moving northeast united with depression number xvi on the 26th. Number xviii first appeared on the 27th about mid-way between Newfoundland and the Azores, and moved northeast to the westward of the British Isles by the 30th, with a marked display of energy during the last two days of the month. Number xix was a tropical cyclone of apparent great energy, which moved slowly northwest from the Windward Islands to about N. 30°, W. 72° by the 30th.

Of the six depressions traced over Europe, two were continuations of storms which traversed the north Atlantic Ocean; one advanced from the ocean over northern Norway and Finland; one first appeared to the northward of the British Isles; one passed eastward from the North Sea, and one moved from the west coast of Portugal northward over Ireland and united with an area of low pressure south of Iceland. From the 1st to the 7th, inclusive, an area of low barometric pressure remained nearly stationary over east-central Russia. With the exception of number xxiv no important depression appeared south of the fifty-fifth parallel. Over the British Isles and northwestern Europe severe weather attended the passage of several depressions of marked energy along, or to the northward of, the sixtieth parallel.

Number xx was a storm of small strength which passed from the west coast of Portugal, in N. 40°, to the northwest of the British Isles by the 5th. Number xxi advanced eastward over Scandinavia during the 14th, with a small display of energy, and moved east-northeast over the Gulf of Bothnia and Finland to the south coast of the White Sea by the 15th, where barometric pressure 29.14 (740.1) was reported at Archangel; from this position the depression moved eastward or northeastward beyond the region of observation. Number xxii advanced over northern Scandinavia from the ocean on the 17th and passed southeast over Finland into Russia by the 18th; by the 19th the depression had moved southeast over central Russia, with pressure 29.32 (744.7) at Kasan; by the 20th the storm-centre had moved slightly to the eastward of its position on the preceding date, with central pressure ranging below 29.20 (741.7), after which it passed northeast and apparently dissipated after the 21st.

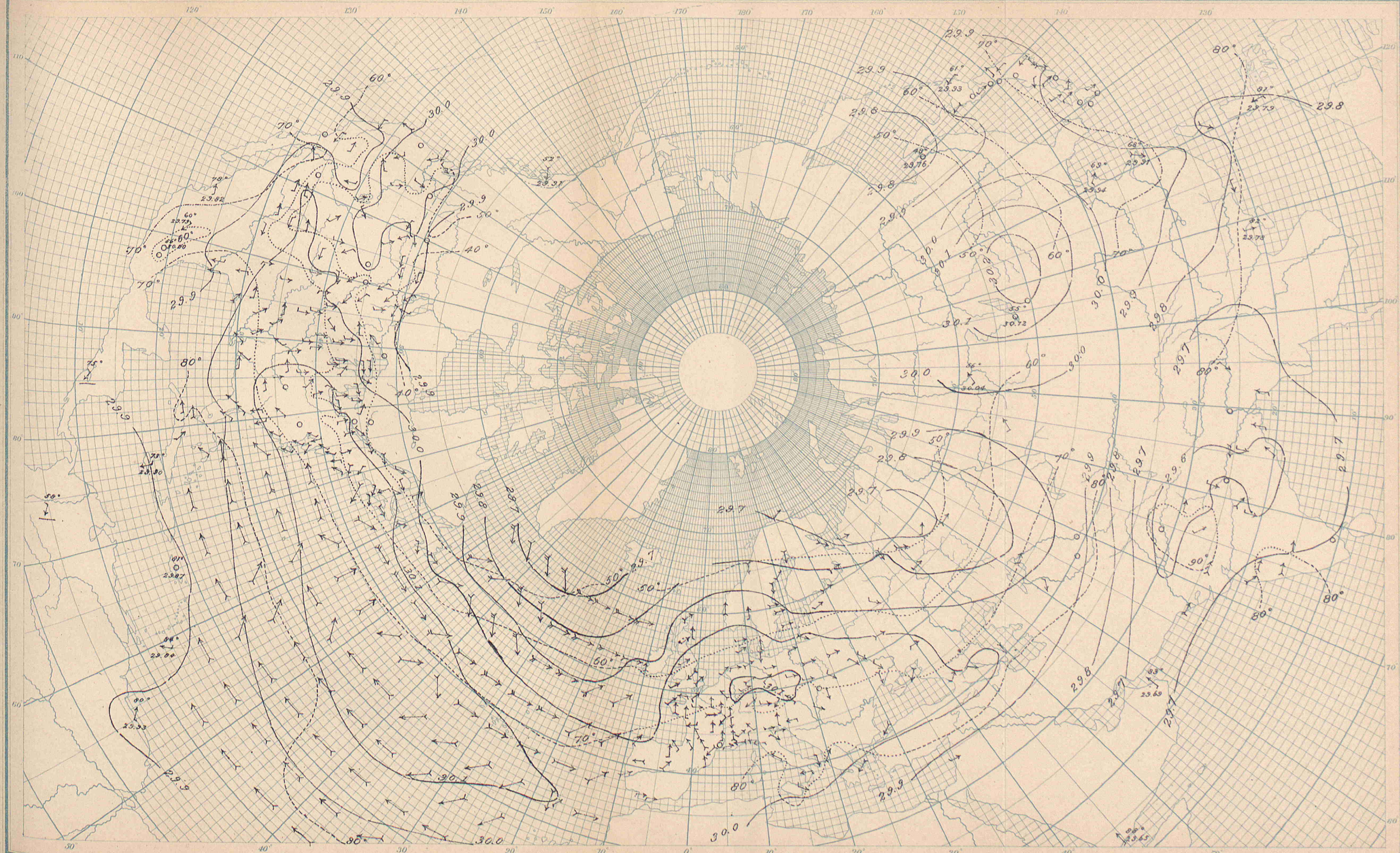
Number xxiii moved eastward from the North Sea and was central on the 21st off the southern extremity of Sweden, with pressure ranging to about 29.40 (746.7); by the 22d the depression had passed north of east into the Baltic Provinces, with barometric minima below 29.30 (744.2), whence it advanced north-northeast to the White Sea, where it remained nearly stationary from the 23d to the 26th, inclusive, and then disappeared to the eastward. Number xxiv was a continuation of ocean storm number xv, and on the 22d was central over the English Channel, with pressure ranging below 29.60 (751.8); by the 23d the depression had moved southeast over France, and after the 23d it apparently dispersed off the west coast of Italy. Number xxv was a continuation of ocean storm number xvi, and was central over Scandinavia on the 28th, pressure below 29.20 (741.7); by the 29th the depression had advanced to the eastern extremity of the Gulf of Finland, where pressure 29.34 (745.2) was reported; by the 30th the storm-centre had passed south of east into Russia, with a marked increase in barometric pressure.

Of the ten depressions traced off the east coast of Asia and over the north Pacific Ocean, five are charted over the Japanese Islands or the Sea of Japan; one advanced northward from the Philippine Islands and circled westward into the China Sea; one appeared over mid-ocean south of the Aleutian Islands, and three are traced from the ocean over the American continent, two of which are continued as land areas of low pressure. Number xxvi apppeared on the 1st near Sitka, Alaska, where barometric pressure 29.48 (748.8) was reported; from this position the depression moved eastward over British America, and last appeared on the 4th in the middle Saskatchewan valley. Number xxvii moved north-northeast along the west coast of the Sea of Japan during the 3d and 4th, and on the latter date was central near Nikolaevsk, where barometric pressure 29.57 (751.1) was reported; by the 5th the depression had advanced over the Sea of Okhotsk beyond the region of observation. Number xxviii advanced northward to the southeast coast of Kiu-Siu by the 10th, where barometric pressure ranging below 29.00 (736.6) was shown; by the 11th the depression had moved east of north over Hondo into the Sea of Japan, with a decided increase in pressure, after which it apparently passed northward and dispersed.

Number xxix was a storm of moderate energy which moved eastward over the ocean south of the Aleutian Islands during the 10th and 11th, after which its course cannot be determined, owing to an absence of reports. Number xxx was central south of the Japanese Islands, in about N. 28°, on the 16th, and thence moved northward over Hondo into the Sea of Japan by the 17th, with pressure ranging below 29.60 (751.8); by the 18th the depression had advanced to the east coast of Yesso, with pressure 29.28 (743.7) at Nemuro, after which it disappeared to the northward. Number xxxi is traced northward over Luzon, Philippine Islands, on the 17th, during the evening of which date barometric pressure 29.57 (751.1) was reported at South Cape, Formosa; by the 18th the depression had apparently moved northwest into the China Sea, in which region its path cannot be traced, owing to an absence of reports.

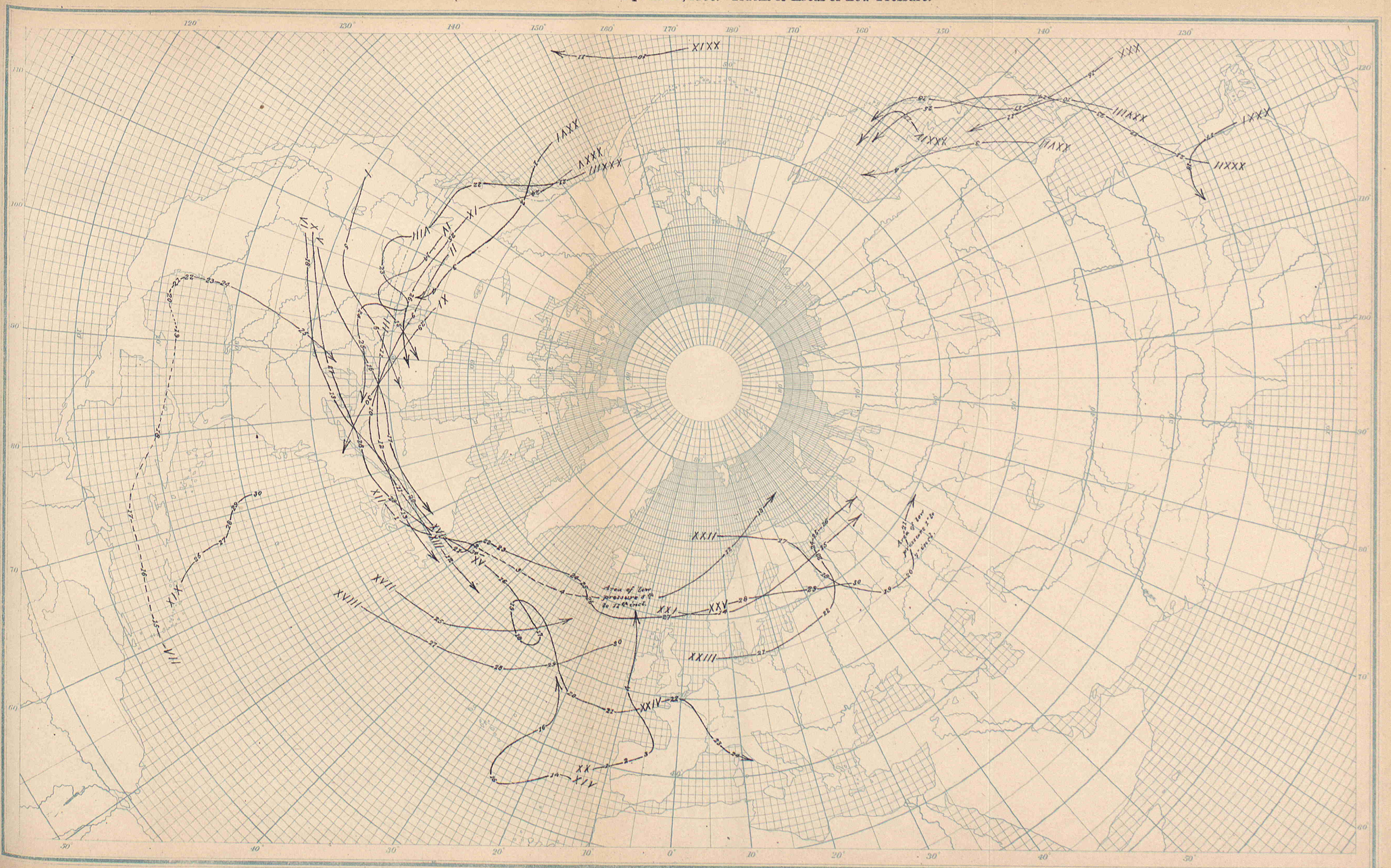
Number xxxii was central on the 21st off the west coast of Formosa, whence it had apparently advanced from the China Sea; during the three following days the depression moved slowly northeast to Sikok, Japanese Islands, where pressure ranging below 29.20 (741.7) was reported; by the 25th the depression had passed northeast to the north coast of Yesso, with central pressure about two-tenths of an inch higher than on the preceding date, after which it disappeared to the northward over the Sea of Okhotsk. Number xxxiii first appeared within the region of observation off the coast of Alaska, in about N. 59°, on the 21st, when barometric pressure 29.56 (750.8) was reported at Sitka; from this position the depression moved southeast and is continued after the 22d as land depression number viii. Number xxxiv is located over the southern part of the Sea of Okhotsk on the 25th, whence it moved northward and disappeared. Number xxxv appeared on the 24th in the vicinity of Sitka, Alaska, where barometric pressure 29.05 (737.9) was reported; moving southeast the depression is continued as land low pressure area number ix.

International Chart II. September, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

International Chart III. September, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September, 1886—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—Continued.	
Br. s. s. Cranbrook	Capt. John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	J. Scholtz.
Elstow	T. Robertson.
Span. Emiliano	D. F. Bengon.
Br. Fitzroy	Henry Gibb.
Glenfalloch	Richard Webster.
Span. Hugo	A. de Mugica.
Joshua Nicholson	S. Adamson.
Am. Lorenzo D. Baker	W. F. Wiley.
Br. Madrid	M. Garson.
Matthew Bedlington	Thos. Kirby.
Span. Navarro	S. de Aldecocea.
Ger. Raiatea	J. Viereck.
Br. Saint Ronans	H. Campbell.
Sacrobosco	R. S. Thompson.
Viola	L. Murray.
N. Y. HERALD WEATHER SERVICE.	
Br. s. s. Alene	Siders.
Am. Alamo	S. Risk.
Br. Alaska	G. S. Murray.
Aller	F. Hamelmann.
Alpes	Anasagasti.
Alvena	O. Hughes.
America	R. W. Grace.
Angerton	S. M. Orr.
Aurania	W. H. P. Hains
Arizona	Sam. Brooks.
Assyrian Monarch	J. Harrison.
Baltic	Geo. Burton.
Belg. Belgenland	W. A. Beynon.
Br. Bothnia	Dutton.
Britannic	P. J. Irving.
Buffalo	W. H. Malet.
Celtic	Benj. Gleadell.
Am. Cienfuegos	F. M. Fairchoth.
Caracas	Hopkins.
Br. Circassia	A. Campbell.
Am. City of Alexandria	J. W. Reynolds.
Br. City of Berlin	F. S. Land.
City of Chester	H. Condron.
City of Chicago	F. Watkins.
Am. City of Puebla	Deakin.
City of Rome	R. D. Munro.
Am. City of Washington	W. H. Rittig.
Br. Claribel	T. M. MacKnight.
Colon	Chas. C. Lima.
Comal	Bolger.
Br. Craighill	W. H. Bennett.
Ger. Donau	H. Swpmer.
Ger. Elder	H. Helmers.
Br. Edith Godden	J. H. Bennett.
Egypt	J. Sumner.
Egyptain Monarch	Morgan.
Am. El Paso	Quick.
Br. Erin	J. Robinson.
Ethiopia	J. Wilson.
Br. Etruria	T. Cook.
Ger. Ems	W. Willigerod.
Am. Eureka	R. B. Quick.
Ger. Fulda	R. Ringk.
Ger. Gellert	W. Kuhlewein.
Br. Greece	A. J. Jeffroy.
Am. Hudson	Freeman.
Ger. Hammonia	H. F. Schwensen.
Br. Holbein	T. J. Farrell.
Fr. LaBourgogne	Franguel.
LaBretagne	de Jusselin.
LaChampagne	Traub.
Am. LaNormande	de Hersabiec.
Lampassas	
Lone Star	Mason.
Louisiana	Gager.
Br. Lydian Monarch	T. C. Huggett.
Br. Manhattan	F. Stevens.
Miranda	Bendon.
Nevada	J. Douglas.
Am. Newport	W. G. Shackford.
Niagara	Bemis.

Name of vessel.	Captain.
N. Y. HERALD SERVICE—Cont'd.	
Belg s. s. Noordland	Capt. N. E. Nickels.
Br. Orinoco	J. S. Garvin.
Otranto	Rippeth.
Dtch. P. Caland	Bonjer.
Belg. Pennland	R. Weyer.
Am. Philadelphia	Hess.
Br. Portia	H. Dawson.
Ger. Rhein	C. Wiegand.
Belg. Rhynland	J. C. Jamison.
Am. Rio Grande	J. F. Lewis.
Dtch. Schiedam	G. Bakker.
Br. Servia	A. McKay.
State of Nebraska	A. G. Brues.
State of Pennsylvania	A. J. A. Mann.
Belg. Switzerland	H. Buschmann.
Ger. Trave	W. Willigerod.
Br. Umbria	W. McMickan.
Am. Valentia	Woodrick.
W. A. Scholten	G. J. Vis.
Warwick	
Belg. Waesland	J. Ueberweg.
Br. Westernland	Com. W. G. Randle.
Wisconsin	Capt. E. Bentley.
SAILING VESSELS.	
Br. bk. Abyssinian	John Hughes.
Am. bg. Abbie Clifford	D. W. Storer.
Br. bk. Ada Peard	N. Hocken.
bg. Adria	J. H. Welden.
It. bk. Agostino Rombo	V. Basso.
Nor. bk. Alpha	O. C. Grönn.
Alvega	C. Gallus.
It. Angelica Accame	Vincenzo Niggi.
Nor. Artemis	E. E. Moe.
Ger. bk. Arnold von Bippen	T. Möller.
Am. schr. Benjamin Hale	John Hull.
bgt. Boston Marine	H. V. Porter.
Ger. bk. Bremerhafen	A. Wisse.
Br. bk. British Isles	G. Southcott.
sp. Cabul	John Rome.
Am. bk. Chas. R. Lewis	A. Montgomery.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
City Camp	D. McLeod.
Ger. Columbus	B. Sauermilch.
Am schr. Comet	W. H. Aldrich.
Am. bk. Crescent	W. P. Gibbs.
Br. sp. Cyromene	Ch. Off. Jas. Masson.
Earl of Shaftsbury	Capt. W. Randall.
schr. Edward R. Emerson	A. H. Child.
Am. schr. Ella A. Warner	H. J. Greaves.
Br. bgt. Elcho	P. A. Oxelgren.
Nor. bk. Elieser	P. Halvorsen.
Am. schr. Ettie H. Listor	S. D. Mason.
Br. bk. Exile	G. J. Pearce.
sp. F. B. Taylor	J. A. Tilley.
Am. schr. Florence Rogers	J. S. F. McLeod.
bk. Fluorine	Wm. Manson.
It. Fratelli Laurin	Lodovico Laurin.
Am. Harriet S. Jackson	W. T. Bacon.
Harvard	Samuel Pray.
Ger. sp. Hedwig	Th. Minsson.
Dtch bk. Helena	T. T. Verbrecht.
Ger. sp. Hugo	John Kuhlken.
Br. bk. Iodine	Adam Smith.
bkt. Josephine	Chas. Brown.
Ger. bk. Leocadia	John Stohff.
Br. bg. Lilian	H. F. Schive.
Am. bg. L. & W. Armstrong	A. Alexander.
Br. bk. Mary	Chas. Acocks.
Am. sp. Magellan	E. S. Manson.
Nor. sp. Mathilda	T. J. Hansen.
Br. bk. Minnie G. Whitney	J. D. Foley.
Ger. Möerve	C. P. Krutzfeld.
Am. bg. Moraney	Mate R. H. Cox.
Am. Nannie T. Bell	Capt. E. G. Huff.
Am. schr. Nelson Bartlett	S. Watts.
Nor. sp. Orion	A. Mathieson.
Ger. sp. Otto	H. Fortmann.
bk. Pillau	G. Gerlach.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Nor. bk. Premier	Capt. G. Guthormsen.
Qvoss	Gunder Olsen.
Dan. Rialto	N. P. Hansen.
Ger. Richard	A. von Seggern.
Am. schr. Rollin Sanford	H. M. Davies.
Br. bk. River Ganges	T. Naile.
Ger. sp. Shakspere	Carl Muller.
Am. bk. Teneriffe	W. S. Richardson.
Aust. sp. The Lord Warden	J. Ossoinack.
Ger. sp. Union	H Fokken.
Am. bg. Water Witch	Max Knaebel.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alert	C. J. Brady.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Essex	Theo. F. Jewell.
U. S. S. Galena	W. H. Reeder.
U. S. S. Hartford	I. H. Gillis.
U. S. S. Iroquois	Yates Stirling.
U. S. S. Jamestown	
U. S. S. Juniata	G. T. Davis.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	S. L. Breese.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	Geo. B. Livingston.
U. S. S. Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Dewey
U. S. S. Pinta	
U. S. S. Portsmouth	C. V. Gridley.
U. S. S. Quinnebaug	Geo. Coffin.
U. S. S. Ranger	C. E. Clark.
U. S. S. Saratoga	C. H. Davis.
U. S. S. Shenandoah	B. Wilson.
U. S. S. Swatara	
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Vandalia	H. L. Howison.
U. S. S. Yantic	F. M. Green.
BRITISH NAVAL.	
H. M. S. Alexandra	J. Fellowes, C. B.
H. M. S. Audacious	R. H. Harris.
H. M. S. Active	Fitz-Roy, C. B.
H. M. S. Briton	R. M. Lloyd.
H. M. S. Bacchante	A. U. Moore.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dart	A. M. Fields.
H. M. S. Hyacinth	Brackenbury.
H. M. S. Minotaur	Jas. Bruce.
H. M. S. Myrmidon	R. F. Hoskyn.
H. M. S. Midge	H. J. Robilliard.
H. M. S. Miranda	E. Rooke.
H. M. S. Nelson	A. P. Lake.
H. M. S Penguin	Haygarth.
H. M. S. Raleigh	A. K. Wilson, C. V.
H. M. S. Rambler	W. U. Moore.
H. M. S. Rifleman	C. W. Prater.
H. M. S. Royalist	G. W. Hand.
H. M. S. Sylvia	L. S. Dawson.
H. M. S. Satellite	A. H. Allington.
H. M. S. Tourmaline	M. Byles.
H. M. S. Woodlark	E. W. Burt.
PORTUGUESE NAVAL.	
H. P. M. S. Vaire	
SWEDISH NAVAL.	
H. S. M. S. Robertsford	G. E. Sandborg.

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of September. 1886.

Stations.	Observers.
AUSTRALIAN.	[Todd, C. M. G.
Adelaide, South Australia	C. L. Wragge, C. M. G. and C.
Hobart Town, Tasmania	Com. J. Shortt, R. N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Pakhoi	C. Wanderleach.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Faaöe	Overlocrer Lauridsen.
Vestervig	Loercr Oesterbol.
FRENCH.	
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Girand, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vanssenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuc	M. Richard.
Saint Maur, Observatory	M. Renon, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours	M. Letellier.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Decsa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Gnidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	T. Enas.
Gifu	R. Ikuchi and S. Yaraki.
Hakodate	F. Kogima and Y. Oganna.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takehayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.

Stations.	Observers.
JAPANESE—*Continued.*	
Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	R. Tomitokoro.
Supporo	K. Kugly.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	C. Carmina.
Mexico	The Staff.
Zacatecas	J. A. Bonilla, M. E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjesvaer	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sscliwerstow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Butkewitsch.
Kusan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacnsipcyz.
Kieff	Observatory.
Korostishev	
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolajev	Capt. Kurdakow.
Nikolajevsk-on-the Amoor	Schohberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Coionobr.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
TroitsKosavsk	
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	T. E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanneva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch't Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Bogota	Joaquin Gomez Otero.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF OCTOBER, 1886.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
BRIGADIER GENERAL, CHIEF SIGNAL OFFICER OF THE ARMY.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
DECEMBER, 1887.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Buenos Ayrean	Capt. J. Scott.
Circassian	Wm. Richardson.
Grecian	C. E. Le Gallais.
Hibernian	John Brown.
Nova Scotian	R. H. Hughes.
Scandinavian	John Park.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Prince	Samuel Nowell.
Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Alexandria	Robt. Pert..
Anchoria	J. J. Small.
British Crown	Archibald Smith.
British Queen	R. Wills.
Circassia	A. Campbell.
City of Rome	R. D. Munroe.
Devonia	Hugh Young.
Dorian	J. McKeague.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ARROW LINE.	
Br. s. s. Critic	W. R Lord.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Samson.
Alvo	David Williams.
Andes	T. M. McKnight.
Claribel	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s s. Clement	Thomas Burley.
Jerome	Benj. Crimp.
BORDEAUX STEAM NAVIGATION Co.	
Fr. s. s. Chateau Yquem	C. Journiel.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Louisiana	E. V. Gager.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Pavonia	B. Woolfenden.
Samaria	T. Roberts.
Scythia	T. Roberts.
Servia	H. McKay.
Umbria	W. McMickan.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polynesia	A. Kuhn.
Taormina	H. M. Franck.
FABRE LINE.	
Fr. s. s. Neustria	P. Verrièrs.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Boston City	W. T. Sherborne.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. La Bourgogne	Franguel.
La Bretagne	M. de Jousselin.
La Champagne	E. Traub.
La Gascogne	Santelli.
La Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offm. E. Crossmann.
GUION LINE.	
Br. s. s. Alaska	Capt. G. S. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Kurlowa.
Gellert	W. Kühlewein.
Hammonia	H. F. Schwensen.
Hungaria	H. Leithauser.

Name of vessel.	Captain.
HAMAURG-AMERICAN LINE—CON.	
Ger. s. s. Lessing	Capt H. Behrends.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Wieland	C. Hebich.
Westphalia	Dræscher.
HARRISON LINE.	
Br. s. s. Counsellor	Wm. Lang.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chicago	Fred. Watkins.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Bessel	Chas. J. Watson.
Dalton	J. Russell.
Holbein	Thos. T. Farrell.
Mozart	W. Spratley.
Olbers	Jas. Clark.
LEYLAND LINE.	
Br. s. s. Bavarian	R. Leask.
Bulgarian	E. Parry.
Istrian	T. H. Fox.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
Colorado	Jas. Daniels.
Lampasses	M. B. Crowell.
Rio Grande	J. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Ponca	W. Bowen.
Pontiac	R. Blyth.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Lydian Monarch	T. C. Huggett.
MORGAN LINE.	
Am. s. s. Eureka	R. B. Quick.
NATIONAL LINE.	
Br. s. s. America	R. W. Grace.
Canada	Thos. Foote.
Denmark	R. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
Erin	J. Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	G. Cochrane.
Holland	Wm. Tyson.
Italy	W. Pearce.
The Queen	John Milligan.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Indipendente	P. Pirandello.
Stura	Giosue Cafiero.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	F. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rittig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. Aller	F. Hamelmann.
America	H. Bodeker.
Donau	H. Swpmer.
Eider	H. Helmers.
Elbe	H. Christoffers.
Ems	T. Jungst.
Fulda	R. Ringk.
Hermann	A. Kohlmann.
Main	R. Sander.
Rhein	L. Jahns.
Saale	H. Reichter.
Trave	W. Willigerod.
Werra	Richard Bussius.
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Oceanic	J. Thompson.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	Capt. J. W. Catherine.
City of Augusta	K. S. Nickerson.
City of Savannah	Ch. Offi. Edwards.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Capt. Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. Orizaba	John N. Ingalls.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. City of Para	L. Dexter.
City of Peking	W. C. Dearborn.
Colon	Chas. C. Lima.
Granada	W. B. Seabury.
San Blas	T. Chapman.
San José	A. D. Austin.
City of New York	Robt. R. Searle.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J. S Garvin.
Trinidad	W. J. Fraser.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	A. J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
P. Caland	T. H. Bonjer.
Schiedam	A Potjer.
Zaandam	H. v. d. Zee.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Brass.
State of Nevada	J. A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjödt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
TYNE AND WEAR STEAMSHIP Co.	
Br. s. s. City of Newcastle	W. T. Irving.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WATTS, WARD LINE.	
Br. s. s. Camden	S. R. Chandler.
Richmond	J. Garson.
WHITE CROSS LINE.	
Belg. s. s. Jan Breydel	H. Meyer.
Pieter de Connick	E. Smit.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Britannic	H. Perry.
Celtic	B. Gleadell.
Germanic	C. W. Kennedy.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, OCTOBER, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.															
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																										
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.83	757.7	29.96	761.0	54.5	12.5	68	2	1	5	7	9	3	1	3	.....	9612	15470	4	2.17	55.1
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.56	750.8	29.76	755.9	48.3	9.1	87	3	4	6	6	4	3	2	1	395	636	7	1.83	46.5
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.82	757.4	29.90	759.4	51.8	11.0	80	4	5	5	1	9	5	1	1	.....	.....	.....	6	2.82	71.6
Austrian.																												
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.51	749.6	30.06	763.5	60.1	15.6	70	.....	2	5	6	.....	7	7	4	.....	.....	.....	5	1.78	45.3
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.28	743.8	30.07	763.8	53.6	12.0	76	4	.....	2	1	2	.....	6	4	12	.....	.....	6	2.60	66.1
Eperies	N. 48 58	E. 21 15	1.25 p.m.	853	260	29.17	740 9	30.05	763.3	50.4	10.2	80	1	2	3	6	8	5	3	3	.....	.....	.....	6	2.35	59.7
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.83	732.2	30.04	763.1	56.8	13.8	77	1	2	3	6	8	5	3	3	.....	.....	.....	4	0.45	11.5
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.64	727.5	29.99	761.7	53.2	11.8	83	.....	1	7	1	.....	.....	8	6	8	.....	.....	6	2.31	58.7
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.09	738.9	30.09	764.3	52.0	11.1	72	2	2	4	4	3	6	6	4	.....	.....	.....	6	1.61	40.9
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.91	759.8	30.02	762.6	65.7	18.7	71	2	1	9	5	4	3	6	1	.....	.....	.....	4	3.20	81.2
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.64	752.8	30.11	764 .8	61.7	16.5	59	4	1	7	:	6	7	4	1	.....	.....	.....	3	0.56	14.1
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	315	96	29.74*c*	755.3*c*	30.01*c*	762.2*c*	*b*62.4	*b*16.9	65*b*	1*c*	4	1	6	5	5	6	.....	.....	.....	.....	4*c*	2.42	61.6
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.94	760.4	30.04	762.9	64.0	17.8	67	.....	4	3	8	2	1	1	9	3	.....	.....	5	2.77	70.3
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.33	744.9	30.05	763.3	50.8	13.8	67	.....	1	9	.....	1	17	1	1	1	.....	.....	6	1.33	33.8
Brazilian.																												
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.88	759.0	30.03	762.8	70.9	21.6	76	1	6	1	1	.....	7	1	7	7	.....	.....	6	1.38	35.0
British.																												
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.73	755.1	29.86	758.4	51.9	11.1	81	2	.....	2	4	11	7	2	3	....	9087	14624	8	2.40	61.0
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	.....	.....	29.81	757.2	54.7	12.6	77	3	1	4	4	2	8	6	3	.....	.....	.....	8	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.38	746.2	29.80	756.9	54.1	12.3	82	2	2	3	5	3	7	4	5	.....	.....	.....	9	4.92	125.0
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.87	758.7	29.83	757.7	83.5	28.6	76	.....	1	.....	1	1	3	10	15	.....	.....	.....	4	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.73	755.1	29.93	760.2	58.4	14.7	85	1	.....	4	2	3	2	2	.....	17	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.58	751.3	29.78	756 4	55.7	13.2	84	3	3	2	6	3	7	4	3	.....	.....	.....	8	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.60	701.0	29.88	758.9	76.9	24.9	49	5	5	1	4	.....	4	5	7	.....	.....	.....	6	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.67	753.6	29.72	754.9	53.7	12.1	87	5	1	2	8	6	1	4	4	.....	.....	.....	6	3.69	93.7
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	29.90	759.4	30.03	762.7	68.3	20.2	77	.....	6	14	2	.....	.....	6	3	.....	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.62	752.3	29.81	757.2	58.1	14.5	76	.....	.....	3	9	5	5	4	.....	.....	.....	.....	8	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.50	749.3	29.80	756.9	58.2	14.6	90	2	1	6	4	5	7	2	3	1	.....	.....	6	7.17*d*	182.1*d*
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.76	755.9	29.82	757.4	56.9	13.8	75	1	.....	5	8	3	1	8	5	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.52	749.8	29.80	756.9	56.4	13.6	79	2	1	4	9	1	5	1	8	.....	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.96	761.0	30.01	762.2	74.2	23.4	82	.....	10	.....	2	.....	11	3	5	.....	.....	.....	5	0.50	12.7
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	29.98	761.5	29.98	761.5	79.0	26.1	76	9	.....	.....	.....	.....	2	12	8	.....	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.56	750.8	29.81	757.2	56.1	13.4	78	2	1	2	6	6	3	4	4	3	.....	.....	7	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.68	753.9	29.76	755.9	57.4	14.1	83	.....	6	6	3	2	4	3	5	2	.....	.....	8	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.74	755.4	29.86	758.4	51.6	10.9	81*a*	3	.....	4	2	7	8	5	2	.....	.....	.....	8	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	29.99	761.7	30.04	763.0	68.1	20.1	58	1	.....	.....	.....	11	2	1	.....	15	1	.....	5	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.88	758.9	53.7	12.1	82	3	1	3	4	2	4	5	9	.....	.....	.....	9	5.16	131.1
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	.....	.....	29.76	755.9	54.4	12.4	76	4	4	3	5	5	3	2	5	.....	.....	.....	*8	.....	.....
Sub-series.																												
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.67	753.6	30.02	762.5	75.5	24.2	67	2	8	2	2	3	8	6	.....	.....	5520	8889	6	0.50	12.8
Canadian.																												
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	30.10	764.5	30.15	765.8	40.3	4.6	81	3	5	7	10	2	.....	1	.....	3	.....	.....	5	0.69	17.5
Bird Rocks *b*	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.98	761.5	30.11	764.8	42.0	5.6	89	5	6	7	6	.....	1	.....	4	.....	.....	.....	5	1.65	41.9
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	30.08	764.0	30.14	765.5	35.5	1.9	88	5	1	7	8	3	2	1	4	.....	3564	5736	4	1.21	30.7
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.91	759.7	30.13	765.3	44.7	7.1	83	3	.....	12	3	1	1	7	2	2	.....	.....	4	1.70	43.2
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	30.07	763.8	30.12	765.0	39.3	4.1	.....	*b*	.....	22	1	.....	.....	2	.....	4	.....	.....	3	0.64	16.3
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	30.06	763.5	30.09	764.3	38.8	3.8	79	2	2	3	8	11	.....	.....	.....	5	3980	6405	6	0.99	25.1
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.17	740 9	30.02	762.5	36.4	2.4	83	6	4	1	2	10	3	1	4	.....	10709	17234	4	1.22	31.0
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	164	50	30.00	762.0	30.19	766.8	38.9	3.8	80	8	3	5	1	.....	1	5	4	4	4876	7847	4	0.85	21.6
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	30.12	765.0	30.17	766.3	45.9	7.7	78	4	4	4	3	5	3	2	4	2	7621	12265	4	2.06	52.3
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	29.06	738.1	30.18	766.6	43.4	6.3	98	.....	3	2	.....	5	1	1	1	18	2562	4123	5	2.47	62.7
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	30.05	763.3	30.18	766.6	43.3	6.3	87	6	9	8	2	3	.....	2	.....	1	.....	.....	4	2.94	74.7
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.81	757.2	30.22	767.6	47.1	8.4	83	5	.....	9	6	4	.....	5	2	.....	.....	.....	5	2.03	51.6
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.82	757.4	30.16	766.1	45.4	7.4	83	2	4	5	9	1	.....	.....	10	.....	5386	8668	6	2.07	52.6
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	30.05	763.3	30.09	764.3	47.0	8.3	81	3	1	5	13	3	.....	1	4	1	.....	.....	5	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.29	744.0	30.21	767.3	43.2	6.2	92	1	.....	1	.....	.....	.....	.....	1	28	1440	2317	6	2.14	54.4
Medicine Hat	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.64	702.0	29.95	760.7	40.2	4.6	80	1	3	1	4	4	1	3	13	13	4904	7891	4	0.79	20.1
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.17	715.5	30.02	762.5	32.7	0.4	83	2	2	4	1	1	1	3	4	13	5252	8452	5	1.04	26.4
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	230	61	29.90	759.5	30.15	765.8	40.4	4.7	89	2	7	7	7	2	.....	3	3	.....	3617	5821	5	1.79	45.5
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.44	747.8	30.14	765.5	41.4	5.2	91	4	1	3	4	.....	5	12	2	.....	7235	11643	5	3.15	80.0
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.36	745.7	30.18	766.6	41.6	5.3	83	4	7	3	.....	1	.....	.....	2	14	.....	.....	5	1.56	39.6
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.35	745.5	30.08	764.0	37.1	2.8	89	5	3	4	.....	.....	1	1	1	16	3028	4873	4	3.02	76.7
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.48	748.8	30.19	766.8	46.8	8.2	98	3	4	2	5	1	.....	.....	4	12	3518	5662	6	1.49	37.8
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.52	749.8	30.18	766.6	44.6	7.0	89	3	4	8	4	.....	1	1	6	4	.....	.....	5	1.78	45.2
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.70	703.6	30.05	763.3	32.0	0.0	66	.....	3	1	8	5	.....	.....	2	12	6311	10156	4	0.12	3.0
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.81	757.2	30.15	765.8	39.6	4.2	80	2	3	11	4	.....	3	2	6	.....	.....	.....	4	1.43	36.3
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.68	753.9	30.15	765.8	39.7	2.6	90	.....	2	11	2	2	.....	5	1	8	.....	.....	4	2.17	55.1
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	30.09	764.3	30.14	765.5	41.1	5.1	87	5	6	3	3	1	1	.....	7	5	.....	.....	3	1.58	40.1
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	30.05	763.3	30.18	766.6	41.6	5.3	87	3	6	3	6	3	.....	1	9	.....	.....	.....	5	4.72	119.9
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.04	763.0	45.4	7.4	.....	4	5	9	5	2	1	1	4	.....	.....	.....	.....	1.97	50.0
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.43	747.5	30.15	765.8	43.9	6.6	87	2	2	1	2	6	.....	2	1	15	5436	8748	5	2.48	63.0
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	30	9	30.00	762.0	30.05	763.3	38.7	3.7	82*a*	6	5	4	3	5	3	2	1	2	.....	.....	3	1.72	43.7
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.89	733.8	30.19	766.8	42.3	5.7	90	1	5	8	3	1	2	.....	4	7	4441	7147	6	3.44	87.4
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.36	694.9	30.03	762.7	32.8	0.4	78	1	2	.....	6	16	1	2	.....	3	.....	.....	4	0.20	5.1
Sydney	N. 46 08	. 60 10	7.59 a.m.	37	11	30.06	763.5	30.12	765.0	43.7	6.5	81	3	4	4	7	6	1	1	2	3	7657	12323	5	3.93	77.0
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.80	756.9	30.18	766.6	44.0	6.7	86	3	1	8	3	1	.....	2	4	9	.....	.....	6	2.64	67.1
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.17	740.9	30.22	767.6	43.1	6.2	91	2*a*	2	9	10	.....	1	3	2	1	.....	.....	5	2.66	67.6
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	30.07	763.8	30.15	765.8	43.9	6.6	88	6	3	.....	3	2	2	7	6	2	.....	.....	5	3.47	88.1
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.93	760.2	30.14	765.5	43.1	6.2	82	3	3	5	7	3	2	1	7	.....	.....	.....	6	1.79	45.5
Sub-series.																												
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.78	756.4	29.97	761.2	43.7	6.5	84	.....	6	6	8	5	1	.....	5	.....	.....	.....	5	2.01	51.1
Chinese.																												
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	30.07	763.8	30.06	763.5	71.7	22.1	.....	.....	.....	1	.....	.....	.....	.....	.....	30	.....	.....	6	0.14	3.6
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	29.88	758.9	29.93	760.2	76.2	24.6	75	4	1	.....	.....	1	1	19	4	1	.....	.....	4	2.82	71.6
Pakhoi	N. 21 29	E. 109 06	7.17 p.m.	19	6	29.85	758.2	29.89	759.2	78.6	25.9	.....	5	1	.....	5	3	10	6	1	.....	.....	.....	.....	1.06	26.9
Sub-Series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.09	764.3	30.05	763.2	62.8	17.1	89	7	4	4	.....	.....	3	12	5	.....	.....	.....	6	5.29	134.4
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.84	757.9	29.90	759.4	77.4	25.2	.....	.....	1	.....	.....	.....	.....	.....	.....	30	.....	.....	5	0.82	20.8
Danish.																												
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.98	761.6	30.08	764.0	51.4	10.8	80	1	1	.....	.....	6	6	12	5	.....	.....	.....	7	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.91	759.7	29.98	761.4	52.7	11.5	82	.....	.....	.....	2	6	7	13	3	.....	.....	.....	6	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.87	758.6	30.00	762.0	51.4	10.8	84	.....	.....	.....	1	1	4	4	14	5	2	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
	o ′	o ′																									
DANISH *Sub-Series.*																											
Godthaab	N. 64 11	W. 51 46	8.33 a m.	36	11	29.43	747 4	29.52	749.8	28.9	— 1.7	84	6	1	1	.....	4	5	4	5	5	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.36 a.m.	42	13	29.49	749.1	29.60	751.8	23.5	— 4.7	.....	1	.....	.....	.....	3	3	14	.....	10	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.52	749.7	29.61	752.1	41.4	5.2	82	.....	4	1	1	6	8	4	.....	7	.....	.....	8	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.73	755.2	29.80	756.9	48.6	9.2	86	1	.....	.....	.....	6	6	3	7	2	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.16 a.m.	39	12	29.54	750.3	29.65	753.1	20.5	— 6.4	88	2	2	1	.....	5	.....	18	.....	3	.....	.....	9	.....	.....
FRENCH.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.69	754.2	29.86	758.4	59.4	15.2	83	1	4	10	4	3	5	3	1	.....	.....	.....	8	1.98	50.2
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.37	745.9	29.93	760 3	58.3	14.6	84	2	.....	1	6	10	6	2	4	.....	.....	.....	6	3.58	90.9
Arras	N. 50 18	E. 2 46	0.11 p.m	223	68	29.61	752.0	29.85	758.2	58.3	14.6	71	.....	4	1	1	6	8	4	.....	7	.....	.....	5	3.52	89.3
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.90	759.5	29.98	761.5	66.6	19.2	70	6	6	2	2	3	6	.....	6	.....	.....	.....	5	10.26	260.6
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.35	745.6	29.92	760.0	59.4	15.2	74	.....	1	1	7	7	14	1	.....	.....	.....	.....	7	3.74	95.0
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.51	749.5	29.90	759.4	59.5	15.3	82	1	.....	1	10	1	2	5	9	2	.....	.....	5	3.74	94.9
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.10	739.2	29.99	761.7	59.0	15.0	74	1	.....	.....	.....	14	3	13	.....	.....	.....	.....	5	3.38	85.8
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.65	753.2	29.91	759.7	62.4	16.9	74	.....	.....	5	8	4	7	6	1	.....	.....	.....	8	7.67	194.9
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.34	745.2	29.88	759.0	61.3	16.3	71	.....	.....	7	7	6	4	6	1	.....	.....	.....	5	5.20	132.1
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.52	749.9	29.78	756.5	59.9	15.5	85	.....	2	7	5	3	4	4	2	.....	.....	.....	9	3.19	81.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.69	754.1	29.78	756.3	52.9	11.6	79	*b2*	.....	6	6	4	9	.....	2	.....	.....	.....	.....	4.28	108.7
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.59	751.6	29.93	760.1	59.7	15.4	82	.....	.....	.....	9	12	7	.....	3	.....	.....	.....	4	3.20	81.2
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.41	747.0	29.93	760.3	60.1	15.6	69	.....	.....	3	5	8	13	2	.....	.....	.....	.....	6	3.89	98.7
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.58	726.0	29.91	759.8	61.9	16.6	65	.....	4	6	5	8	6	2	.....	.....	.....	.....	7	4.67	118.7
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.10	739.1	29.94	760.5	60.4	15.8	71	.....	3	6	7	9	3	.....	3	.....	.....	.....	7	4.38	111.2
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.07	738.4	29.96	760.9	58.6	14.8	83	.....	.....	.....	12	9	1	2	5	2	.....	.....	7	2.50	63.5
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.50	698.5	30.00	761.9	59.7	15.4	64	.....	.....	.....	1	6	.....	.....	.....	24	.....	.....	.....	9.47	240.6
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.87	733 4	29.98	761.6	64.2	17.9	62	3	1	1	12	1	3	.....	10	.....	.....	.....	6	8.94	227.0
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.30	744.1	30.06	763.6	57.7	14.3	74	.....	8	2	2	3	1	12	2	1	.....	.....	.....	5.13	130.2
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.36	720.3	29.93	760.3	52.7	11.5	64	.....	9	.....	8	4	7	3	.....	.....	.....	.....	6	2.05	52.0
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.37	745.9	29.95	760.6	66.6	19.2	64	1	1	7	5	3	5	7	2	.....	.....	.....	.....	0.55	13.9
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.73	755 1	29.85	758.1	60.6	15.9	78	1	2	8	1	6	4	6	3	.....	.....	.....	7	7.48	190.0
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.92	734.5	29.96	761.0	60.3	15.7	67	3	1	3	4	8	5	5	2	.....	.....	.....	5	7.39	187.6
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.58	751.4	29.87	758.8	58.6	14.8	81	2	1	9	3	8	5	3	.....	.....	.....	.....	6	5.73	145.6
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.71	754.5	29.97	761.1	68.0	20.0	61	.....	6	5	5	.....	7	7	1	.....	.....	.....	6	7.23	183.6
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.84	631.0	29.67	753.6	51.1	10.6	68	.....	5	9	12	.....	1	3	1	.....	.....	.....	5	5.39	137.0
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.79	756.7	29.96	760.9	64.4	18.0	71	1	5	3	5	1	8	.....	6	2	.....	.....	5	11.91	302.5
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.85	605.7	.....	.....	40.6	4.8	87	.....	7	3	2	5	13	1	.....	.....	.....	.....	2	15.82	401.8
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.28	743.7	29.97	761.1	56.1	13.4	76	.....	1	4	11	3	3	8	1	.....	.....	.....	.....	2.02	51.3
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.72	754.8	29.87	758.6	61.2	16.2	77	1	1	7	3	4	11	4	.....	.....	.....	.....	8	.....	.....
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.89	759.2	29.95	760.7	68.9	20.5	71	3	1	.....	1	3	2	3	.....	18	.....	.....	4	5.81	147.6
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.85	758.1	29.96	760.9	66.7	19.3	62	2	8	2	1	8	4	1	2	3	.....	.....	6	5.28	134.1
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.17	537.8	.....	.....	32.9	0.5	75	.....	1	7	16	.....	.....	.....	.....	7	.....	.....	3	3.80	96.4
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.90	734.0	29.98	761.6	60.6	15.9	75	6	.....	.....	.....	.....	17	.....	5	.....	.....	.....	3	13.47	342.1
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.08	637.0	.....	.....	44.1	6.7	89	.....	.....	9	6	8	7	1	.....	.....	.....	.....	7	6.98	177.2
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.82	757.5	29.88	759.0	61.9	16.6	78	2	7	7	1	1	8	5	.....	.....	.....	.....	6	11.22	285.0
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.58	751.4	29.86	758 4	61.2	16.2	75	1	1	6	9	2	10	2	.....	.....	.....	.....	9	4.61	117.2
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.89	708.3	29.99	761.8	57.9	14.4	74	1	3	.....	.....	3	24	.....	.....	.....	.....	.....	4	5.08	128.9
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.80	757 0	29.87	758.6	59.9	15.5	72	.....	1	1	3	8	6	6	4	.....	.....	.....	7	4.29	108.9
Saint Brieuc	N. 48 37	E. 5 08	0.20 p.m.	346	106	29.44	747.8	29.80	756.8	58.6	14.8	81	1	2	5	2	9	6	4	2	.....	.....	.....	7	5.25	133.3
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.71	754.7	29.89	759.3	59.7	15.4	73	2	.....	3	7	4	8	3	4	.....	.....	.....	7	2.99	75.9
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.28	743.6	30.00	762.0	64.0	17.8	73	2	.....	9	2	1	15	1	1	.....	.....	.....	6	4.67	118.7
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.69	754.1	29.87	758 6	58.1	14.5	79	.....	.....	10	3	3	8	5	1	1	.....	.....	6	6.32	160.4
Sub-Series.																											
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.81	757.1	29.96	760.9	64.0	17.8	66	.....	3	7	6	5	1	5	4	.....	.....	.....	7	11.14	*p282.9*
GERMAN.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.54	724.9	30.00	761.9	55.6	13.1	68	.....	.....	5	7	2	5	6	4	2	.....	.....	5	1.99	50.6
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	28.39	721.2	29.95	760.8	61.0	16.1	67	1	2	6	10	2	5	3	.....	2	.....	.....	5	1.51	38.4
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.86	758.5	30.03	762.7	54.3	12.4	70	.....	.....	.....	2	2	6	4	14	2	1	.....	6	1.28	32.5
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.52	749.7	30.10	764.6	52.2	11.2	71	2	4	3	2	3	6	11	.....	.....	.....	.....	6	2.59	65.8
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.52	749.7	29.98	761.5	57.9	14.4	72	.....	.....	1	14	.....	4	1	9	2	.....	.....	6	5.05	128.2
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	29.23	742.4	29.97	761.3	55.9	13.3	77	1	.....	1	5	16	3	5	.....	.....	.....	.....	5	1.58	40.1
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.59	751.5	30.02	762.4	58.1	14.5	69	.....	.....	2	7	6	4	8	1	3	.....	.....	5	2.38	60.4
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.57	725.6	29.98	761.6	54.9	12.7	79	3	.....	4	14	4	1	.....	5	.....	.....	.....	6	2.53	64.2
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.88	759.0	30.00	761.9	52.7	11.5	73	.....	.....	1	5	3	9	11	2	.....	.....	.....	6	1.24	31.4
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.95	760.8	30.00	762.0	52.2	11.2	77	.....	.....	.....	8	4	2	15	2	.....	.....	.....	6	1.67	42.4
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.57	751.0	30.06	763 5	55.2	12.9	88	.....	1	.....	4	7	8	4	7	.....	.....	.....	5	1.72	43.8
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	30.10	764.5	30.19	766.9	47.7	8.7	79	5	4	2	.....	3	10	3	4	.....	.....	.....	8	.....	24.7
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.16	715 2	30.04	762.9	54.5	12.5	70	.....	5	1	.....	.....	.....	8	11	6	.....	.....	6	0.97	54.1
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	30.10	764.6	30.17	766.4	50.0	10.0	74	1	1	4	.....	7	6	10	2	.....	.....	.....	7	2.13	131.2
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	*a*29.42	*a*747.3	*a*29.96	*a*761.0	*a*57.0	*a*13.9	*a*77	*a1*	.....	4	7	8	1	3	4	2	.....	.....	*a6*	5.16	131.2
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.06	738.2	29.97	761.2	57.9	14.4	69	5	.....	5	7	1	3	5	5	.....	.....	.....	5	1.62	41.2
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	30.00	761.9	30.06	763.4	52.2	11.2	78	1	.....	1	2	4	11	6	5	1	.....	.....	7	1.40	35.6
GREEK.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.72	754.8	29.94	760.5	73.2	22.9	57	1	3	.....	4	7	2	.....	14	.....	.....	.....	3	0.41	10.3
INDIAN.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.73	755.2	29.73	755.2	88.1	31.2	50	.....	2	18	9	.....	.....	1	1	.....	.....	.....	1	0.05	1.3
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.28	743.8	29.69	754.2	93.6	34.2	31	2	3	3	1	9	4	4	5	.....	.....	.....	3	0.08	2.0
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.76	755.9	29.74	755.3	82.2	27.9	80	5	11	1	5	8	.....	1	.....	.....	.....	.....	6	2.04	51.8
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	27.94	709.7	29.72	754.9	79.4	26.3	69	*a2*	1	6	11	.....	1	4	5	.....	.....	.....	7	11.86	301.2
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2524	769	27.27	692.6	29.71	754.5	73.7	23.2	80	*b3*	.....	5	10	4	1	1	4	1	.....	.....	8	4.73	120.1
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.10	739.0	29.77	755.1	82.2	27.9	51	.....	.....	.....	.....	1	.....	3	.....	27	.....	.....	0	2.27	57.7
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	28.90	734.1	29.75	755.7	82.2	27.9	46	.....	.....	11	.....	.....	.....	.....	.....	20	.....	.....	1	0.37	9.4
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.23	742.4	29.74	755.3	86.6	30.3	49	8	.....	.....	2	.....	.....	6	8	7	.....	.....	2	0.24	6.1
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.73	729.7	29.70	754.4	81.9	27.7	71	2	1	2	2	2	1	4	6	11	.....	.....	6	9.65	245.1
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.44	722.4	29.73	755.2	79.8	26.6	72	1	.....	2	.....	1	.....	2	9	16	.....	.....	6	6.26	159.0
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.44	747.9	29.77	756.2	79.7	26.5	73	7	5	2	.....	.....	.....	2	3	12	.....	.....	4	1.97	50.0
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.48	748.7	29.74	755.4	83.0	28.3	69	5	1	.....	.....	.....	.....	8	3	14	.....	.....	5	2.82	71.6
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.62	752.3	29.75	755.7	82.1	27.8	73	1	1	3	2	.....	.....	6	1	17	.....	.....	5	5.84	148.3
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.81	706 4	29.76	756.0	75.9	24.4	78	7	.....	.....	.....	1	5	5	3	10	.....	.....	8	11.88	301.7
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.71	754.7	29.74	755 3	82.2	27.9	77	1	3	.....	.....	1	1	14	11	.....	.....	.....	5	9.04	229.6
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.78	756.4	29.75	755.5	81.4	27.4	85	5	2	4	2	4	2	3	5	4	.....	.....	6	3.91	99.3
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.69	754.1	29.76	755.8	81.3	27.4	78	.....	.....	.....	.....	1	.....	.....	.....	2	28	.....	2	0.83	21.1
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.72	755.0	29.76	755.9	81.3	27.4	85	1	4	5	2	2	.....	.....	2	.....	15	.....	4	4.91	124.7
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.50	749.4	29.79	756.7	79.2	26.2	86	1	1	.....	1	.....	2	5	21	.....	.....	.....	5	6.18	157.0
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.37	720 6	29.74	755.4	86.5	30.3	43	5	1	.....	.....	1	5	13	5	1	.....	.....	3	1.01	25.6
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1475	449	28.31	719.0	29.70	754.5	83.6	28.7	62	1	4	8	3	5	2	5	3	.....	.....	.....	8	.....	87.4
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.53	750.1	29.74	755.3	87.9	31.1	59	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	3.44	
ITALIAN.																											
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.56	750.7	29.97	761.1	63.3	17.4	62	4	6	2	2	1	2	.....	14	.....	.....	.....	5	8.58	217.9
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.50	749.4	30.02	762.6	62.4	16.9	78	.....	4	9	7	4	4	2	1	.....	.....	.....	7	9.59	243.6
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.91	759.8	30.02	762.5	62.8	17.1	70	4	9	6	3	4	3	2	.....	.....	.....	.....	6	5.52	140.3
Moncalieri	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.11	739.4	30.02	762.4	59.4	15.2	73	1	4	4	8	4	3	2	5	.....	.....	.....	6	7.12	180.9
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.79	756.7	29.98	761.5	66.6	19.2	65	7	6	.....	9	3	6	.....	.....	.....	.....	.....	5	14.20	360.7
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.97	761.2	30.02	762 4	65.5	18.6	73	2	7	4	3	1	5	2	7	.....	.....	.....	5	2.09	53.0
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.74	755.5	30.00	761.9	66.6	19.2	65	3	5	3	3	2	6	3	6	.....	.....	.....	6	3.65	92.7
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.91	759.8	30.00	761.9	68.2	20.1	66	2	9	4	1	2	5	8	.....	.....	.....	.....	6	7.60	193.0
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.84	758.0	30.00	762.0	71.6	22.0	55	4	1	3	3	6	9	3	1	1	.....	.....	6	3.53	89.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																									
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.80	757.0	30.04	762.9	72.3	22.4	56	7	8	2	3	4	5	.....	2	.....	.....	.....	4	1.57	39.9
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.19	741.4	30.04	762.9	70.7	21.5	61	3	3	1	4	1	5	7	7	.....	.....	.....	4	1.64	41.6
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.78	756.4	30.01	762 2	76.8	24.9	457	1	6	1	5	5	1	.....	10	2	.....	.....	.....	4.28	108.6
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	30.02	762.4	30.03	762.7	77.4	25.2	65	3	12	5	4	4	2	.....	1	.....	.....	.....	6	0.63	16.0
Sub-Series.																											
Stelvio	N. 46 32	E. 10 25	0.42 p.m	8343	2543	22 19	563 7	.....	.....	37.9	3.3	71	.....	.....	22	5	.....	3	.....	1	.....	.....	.....	6	3.54	89.8
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22.20	563.9	.....	.....	37.4	3.0	67	1	5	5	10	.....	4	5	1	.....	.....	.....	6	49.83	1374.9
JAPANESE.																											
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	30.06	763.4	30.09	764.3	53.8	12.2	94	5	1	3	.....	.....	1	11	1	9	2069	3551	5	7.08	179.9
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	30.06	763.6	30.09	764.2	52 5	11.4	84	2	1	1	2	6	2	.....	1	16	1799*j*	2895*j*	5	2.43	61.7
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	30.05*r*	763.3*r*	30.04*r*	763.1*r*	62.3	16.8	83	2	1	5	8	.....	1	2	8	4	7937	12772	7	5.88	145.2
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.03	762.8	30.03	762.7	61.9	16.6	87	6	2	1	1	.....	3	2	4	12	1742	2804	4	9.00	228.2
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	30.07	763.9	30.08	763.9	51.4	10.8	83	13	2	5	1	1	2	3	1	3	5739	9236	4	2.00	50.7
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.96	761.0	30.03	762.8	62.6	17.0	93	3	1	3	.....	.....	.....	9	15	.....	.....	.....	6	7.71	195.9
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.07	763.7	30.06	763.4	62.2	16.8	81	25	.....	1	.....	.....	.....	.....	5	.....	4638	7463	5	7.53	191.1
Itsurbara	N. 34 12	E.129 16	8.34 p.m.	16	5	30.05	763.2	30.04	762.9	63.6	17.6	81	20	2	1	2	1	.....	1	1	3	.....	.....	5	7.83	198.8
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	30.00	762.1	30.08	764.1	59.6	15.3	88	7	.....	1	2	.....	12	4	2	3	2763	4446	8	7.89	200.3
Kago-shima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.04	763.0	30.02	762.4	67.6	19.8	82	3	2	1	1	.....	.....	6	4	14	3029	4874	5	4.35	110.4
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.91	759.8	30.06	763.5	60.7	16.0	85	8	10	1	1	.....	2	1	6	2	2081	3349	7	7.39	187.8
Kochi	N. 33 33	E.133 34	8.54 p.m.	20	6	30.05	763.2	30.04	762.9	66.2	19.2	81	7	8	1	.....	1	.....	1	3	10	.....	.....	7	8.12	206.2
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.04	763.0	30.03	762.8	66.5	19.2	91	12	.....	2	2	3	.....	7	1	4	3357	5423	7	4.61	117.2
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.99	761.8	30.08	764.2	53.7	12.0	90	2	.....	12	10	1	.....	.....	1	5	1332	2144	6	4.25	107.9
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.56	758.3	30.02	762.6	64.3	18.0	82	9	.....	.....	1	3	1	2	10	5	3618	5823	5	7.17	182.1
Nemuro	N. 43 20	E.145 35	9.42 p.m.	43	13	29.95	760.7	30.05	763.3	51.6	10.9	84	5	1	3	2	13	2	.....	5	.....	6810	10960	5	2.66	67.6
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.06	763.6	30.08	764.0	60.4	15.8	81	3	.....	4	.....	3	3	4	1	13	4006	6445	6	6.80	172.8
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	30.08	764.1	30.08	764.0	57.5	14.2	90	8	1	1	.....	5	2	1	.....	13	6323*a*	10176*a*	7	3.96	100.4
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	30.04	763.1	30.05	763.3	62.3	16.8	85	1	1	2	1	.....	1	19	6	.....	.....	.....	8	7.98	202.7
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.03	762.8	30.05	763.3	62.9	17.2	82	7	1	...	.....	.....	.....	2	16	5	4976	8008	7	5.46	138.5
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.10	764.4	30.10	764.4	62.0	16.7	81	9	.....	.....	.....	.....	2	1	4	6	4584	7377	7	8.20	208.5
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	135	41	29.92	759.9	30.08	763.9	63.3	17.4	80	.....	4	.....	1	.....	.....	12	4	10	.....	.....	5	6.61	167.9
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.98	761.4	30.02	762.5	51.0	10.6	78	4	3	3	1	9	5	2	.....	4	9902	15936	4	5.52	140.2
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	30.00	762.1	30.05	763.6	49.3	9.6	86	2	2	1	1	7	4	2	1	11	4174	6716	4	4.20	107.0
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	30.03	762.8	30.08	764.1	61.0	16.1	87	12	1	.....	.....	5	4	8	1	.....	4774	7683	8	7.51	190.7
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.01	762.3	30.03	762.8	63.5	17.5	83	3	1	1	.....	1	.....	3	6	16	1622	2611	7	7.18	182.6
MAURITIUS.																											
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.94	760.5	30.07	763.8	74.8	23.8	60	.....	.....	.....	.....	.....	.....	28	3	.....	.....	.....	5	2.58	65.5
MEXICAN.																											
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.67	601,2	29.88	758.9	54.7	12.6	77	.....	4	2	7	.....	.....	3	15	.....	.....	.....	3	0.32	8.0
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.37	619.0	30.08	764.0	52.1	11.2	88	5	2	.....	.....	.....	.....	.....	24	.....	.....	.....	3	0.09	2.2
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.71	754.6	29.91	759.7	75.6	24.2	81	2	4	.....	1	.....	3	16	5	.....	.....	.....	1	.....	.....
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.15	588.0	30.21	765.5	50.2	10.1	83	5	2	.....	.....	.....	.....	.....	.....	24	.....	.....	3	0.18	4.6
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.66	575.6	30.23	767.8	50.8	11.4	83	.....	.....	.....	5	2	18	5	3	.....	.....	.....	4	4.76	121.0
NETHERLANDS.																											
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.85	758.2	29.88	759.0	57.4	14.1	.....	.....	.....	2	8	4	6	8	3	.....	.....	.....	.....	2.23	56.7
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.84	757.8	29.93	760.1	53.2	11.8	.....	1	2	3	4	4	12	4	.....	1	.....	.....	.....	2.21	56.2
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.85	758.3	29.89	759.1	54.3	12.4	.....	.....	3	1	5	4	7	10	1	.....	.....	.....	.....	3.89	98.7
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.85	758.3	29.89	759.1	56.7	13.7	.....	.....	.....	3	7	4	4	8	2	3	.....	.....	.....	3.05	77.5
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.84	758.0	29.92	760.0	57.7	14.3	.....	.....	.....	1	6	7	9	8	.....	.....	.....	.....	4	2.34	59.4
Sub-Series.																											
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.70	754.4	79.5	26.4	82	2	.....	1	3	6	2	.....	5	12	.....	.....	8	4.31	109.5
NORWEGIAN.																											
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.89	759.1	29.99	761.7	46.6	8.1	67	6	2	.....	2	6	4	.....	2	9	.....	.....	5	5.41	137.4
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.94	760.5	30.03	762.8	49.3	9.6	65	3	1	1	3	3	4	11	.....	5	.....	.....	6	1.63	41.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.95	760.7	30.14	765.5	45.3	7.4	79	1	....	1	3	4	.....	3	7	12	.....	.....	8	1.89	48.0
Gjesvær	N. 71 00	E. 25 22	1.41 p.m.	23	7	29.78	756.4	29.86	758.5	41.4	5.2	.....	1	1	5	7	4	2	.....	2	9	.....	.....	8	2.80	71.2
PORTUGUESE.																											
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.06	763.4	30.11	764.7	71.8	22.1	64	2	.....	.....	16	2	5	1	.....	5	.....	.....	6	0.70	17.9
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.72	755.0	30.04	763.0	63.3	17.4	65	3	4	4	8	5	.....	3	4	.....	.....	.....	6	4.23	107.5
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.13	765.3	30.18	766.6	68.4	20.2	72	4	3	8	3	2	1	.....	7	3	.....	.....	5	5.22	132.6
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.96	761.0	29.93	760.3	80.6	27.0	70	12	1	.....	.....	.....	.....	.....	1	17	.....	.....	5	0.00	00.0
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.06	712.8	29.82	757.4	77.7	25.4	68	.....	.....	.....	2	.....	.....	.....	.....	29	.....	.....	8	8.85	224.8
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.24	641.2	30.00	761.9	43.9	6.6	82	2	2	11	4	3	1	7	1	.....	.....	.....	7	21.61	548.8
RUSSIAN.																											
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.97	761.2	30.04	763.0	35.6	2.0	82	1	4	3	3	10	3	1	3	3	.....	.....	7	.....	.....
Astrakhan *b*	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.16	766.1	30.09	764.3	49.6	9.8	65	3	5	7	3	.....	9	1	1	.....	.....	.....	8	.....	.....
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.13	765.3	30.08	764.0	62.8	17.1	75	7	2	.....	1	11	3	2	2	3	.....	.....	4	0.20	5.1
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.60	751.8	30.14	765.5	30.7	— 0.7	74	2	2	2	12	2	2	.....	1	8	.....	.....	8	1.40	35.6
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.91	759.7	30.16	766.1	44.8	7.1	77*b*	3	3	4	8	2	4	4	3	.....	.....	.....	9	2.16	55.0
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.13	740.0	30.18	766.6	26.4	— 3.1	73	3	1	6	3	.....	.....	.....	2	1	.....	.....	7	0.57	14.5
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.72	754.9	30.19	766.8	51.3	10.7	58	4	9	3	5	.....	3	2	4	1	.....	.....	7	1.39	35.3
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28 58	725 9	30.30	769.6	31.5	— 0.3	73	...	7	1	.....	.....	5	.....	1	17	.....	.....	3	0.63	16.0
Kasanlinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	29.87	758.7	30.04	763.0	47.5	8.6	59*e*	2	4	7	4	4	.....	4	6	.....	.....	.....	7	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.80	756.9	30.07	763.8	36.3	2.4	74	3	7	4	4	.....	5	3	3	2	.....	.....	8	0.11	2.8
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	30.00	762.0	30.09	764.3	37.9	3.3	75	1	7	9	6	.....	2	.....	2	4	.....	.....	8	0.32	8.1
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.13	765.3	30.15	765.8	54.9	12.7	73	9	1	2	.....	6	.....	10	2	1	.....	.....	7	.....	.....
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.43	747 5	30.09	764.3	46.9	8.3	77	8	5	5	1	4	5	1	1	1	.....	.....	7	1.83	46.5
Korost shev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.46	748 3	.....	.....	49.3	9.6	66	7	7	1	4	8	.....	4	.....	.....	.....	.....	7	0.70	17.8
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.59	751.6	30.17	766.3	41.0	5.0	83*a*	3	8	5	2	1	1	7	1	3	.....	.....	8	.....	.....
Lgov	N 51 38	E 35 17	2.21 p.m.	518	158	29.57	751.1	30.17	766.3	43.7	6.5	72	4	3	4	4	1	3	3	2	7	.....	.....	8	1.73	43.9
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	30.12	765.0	30.16	766.1	48.2	9.0	75	2	2	6	3	2	7	8	1	.....	.....	.....	8	1.14	29.0
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.97	761.2	30.17	766.3	49.1	9.5	67	1	4	13	4	1	.....	3	5	.....	.....	.....	8	1.06	26.9
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.62	752.3	30.15	765.8	41.2	5.1	78	5	9	3	.....	3	2	5	1	3	.....	.....	7	0.52	13.2
Nertchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.85	707.4	30.33	770.4	28.8	— 1.8	60	2	2	1	1	2	.....	.....	1	22	.....	.....	3	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	30.09	764.3	30.17	766.3	54.0	12.2	64	13	1	1	.....	5	1	2	2	6	.....	.....	8	1.29	32.8
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.74	755.4	29.84	757.9	31.6	— 0.2	74	5	.....	10	.....	.....	2	.....	.....	11	.....	.....	3	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.73	755.1	30.06	763.5	35.4	1.9	74	4	6	.....	2	3	8	1	6	1	.....	.....	8	0.51	13.0
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.60	751.8	30.00	762.0	31.5	— 0.3	79	3	5	4	9	.....	.....	2	2	6	.....	.....	9	1.05	26.7
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.81	757.2	30.14	765.5	59.2	15.1	.....	2	4	5	.....	3	1	3	6	7	.....	.....	5	0.98	24.9
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.91	759.7	30.19	766.8	39.2	4.0	75	2	8	5	6	2	3	3	2	.....	.....	.....	7	0.20	5.1
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.64	752.8	30.15	765.8	47.7	8.7	66	3	7	2	1	2	6	5	4	1	.....	.....	7	1.23	31.2
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	30.06	763.5	30.07	763.8	35.2	1.8	69	1	1	5	6	3	.....	5	1	9	.....	.....	6	.....	.....
St.Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	30.12	765.0	30.18	766.6	42.4	5.8	74	4	3	10	1	2	4	5	2	.....	.....	.....	8	0.22	5.6
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.63	701.8	30.14	765.5	61.0	16.1	.....	1	1	.....	1	.....	1	...	1	27	.....	.....	3	.....	.....
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.96	761.0	30.18	766.6	57.9	14.4	63	3	6	5	4	3	1	.....	7	2	.....	.....	6	1.36	34.5
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.43	722.1	30.12	765.0	61.7	16.5	47	2	4	5	.....	.....	.....	.....	.....	20	.....	.....	5	.....	.....
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.68	728.5	30.11	764.8	64.2	17.9	44	1	12	2	1	2	11	1	.....	1	.....	.....	6	1.76	44.7
Troitskosavsk *b*	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.48	698.0	30.34	770.6	30.2	— 1.0	70	.....	9	.....	.....	.....	.....	.....	.....	20	.....	.....	6	0.15	3.8
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.39	746.5	30.07	763.8	33.6	0.9	88*n*	6	5	4	5	3	1	.....	3	4	.....	.....	8	0.77	19.6
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.66	753.4	30.12	765.0	49.1	9.5	76	2	2	6	2	4	7	5	6	1	.....	.....	6	2.36	59.9
Yeniselsk	N. 58 27	E. 92 06	6.08 p.m.	275?	84	29.83	757.7	30.07	763.8	27.5	— 2.5	.....	1	1	2	6	1	4	3	.....	9	.....	.....	8	1.31	33.3
SPANISH.																											
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.81	757.2	29.97	761.1	66.6	19.2	70	4	1	5	6	4	1	5	5	.....	175	282	6	1.98	50.2
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.87	758 7	29.93	760.3	67.1	19.5	61	.....	12	2	4	5	3	.....	.....	5	2557	4116	7	3.55	90.1
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.04	686.8	29.98	761.4	55.9	13.3	75	2	.....	5	12	9	1	.....	2	.....	5042	8115	6	2.49	63.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for October, 1886.																				Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
SPANISH—Con.	° ′	° ′																										
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.80	706.0	29.98	761.4	63.0	17.2	60	.....	.....	6	7	8	2	2	6	.....	6989	11248	6	1.87	47.5
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.02	737.2	29.93	760.1	59.0	15.0	80	.....	2	5	11	5	.....	.....	1	7	4568	7351	9	8.85	224.8
Sub-Series.																												
Havana	N. 23 08	W.82 23	6.30 a.m.	62	19	29.93	760.3	29.95	760.7	73.0	22.8	89	2	.....	.....	.....	1	10	16	2	.....	.....	.....	4	3.80	96.5
Manila	N. 14 35	E.120 57	8.04 p.m.	52	16	29.84	758.0	29.84	757.9	79.3	26.3	88	4	.....	1	4	3	4	3	8	4	2580	4152	6	14.31	363.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	29.98	761.5	30.06	763 5	68.8	20.4	65	1	3	11	5	5	.....	3	.....	3	.....	.....	6	2.87	72.9
San Juan de Porto Rico	N. 18 30	W.66 10	7.35 a.m.	82	25	29.88	759.0	29.87	758 8	79.2	26.2	83	.....	.....	.....	.....	1	5	8	2	.....	15	.....	5	11.91	302.4
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	30.01	762.2	30.10	764.5	40.8	4.9	83	2	5	4	2	9	3	3	.....	3	.....	.....	7	1.10	28.0
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	30.03	762.8	30.13	765.3	43.5	6.4	80	3	4	1	5	5	2	3	6	2	.....	.....	7	1.77	45.0
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	30.06	763.4	30.15	765.8	46.0	7.8	74	3	2	3	3	2	2	2	5	9	.....	.....	6	1.36	34.5
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.95	760.7	30.16	766.1	46.0	7.8	77	3	4	6	1	3	3	2	7	2	.....	.....	8	0.54	13.7
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	30.00	762.1	30.10	764.4	49.1	9.5	78	4	2	5	1	7	2	8	2	.....	.....	.....	7	0.79	20.1
Sub-Series.																												
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	30.02	762 4	30.17	766.2	45.7	7.6	77	3	4	4	7	3	2	4	4	.....	.....	.....	7	17.34	440.4
SWISS.																												
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.59	726.2	30.01	762.2	56.3	13.5	76	10	3	1	2	10	.....	2	3	.....	.....	.....	.....	5.53	140.5
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.06	763.6	65.3	18.5	64	8	.....	.....	8	3	3	.....	9	.....	.....	.....	6	2.05	52.1
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.01	762.2	76.6	24.8	.....	.....	16	4	2	8	1	...	.....	.....	.....	.....	3	2.44	62.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	29.83	757.7	29.91	759.7	78.3	25.7	61	12	4	7	4	.....	.....	1	.....	3	.....	.....	3	0.09	2.3
UNITED STATES.																												
Atlantic states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	.....	.....	.....	.....	443.1	46.2	.....	6	5	2	5	3	1	2	4	3	.....	.....	5	20.86	521.8
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	30.07	763.8	30.17	766.3	44.2	6.8	81	10	4	7	5	1	.....	.....	2	2	5781	9303	6	6.70	170.2
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.85	605.8	30.17	766.3	30.9	0.6	86	3	9	8	7	.....	1	2	1	.....	.....	.....	3	5.09	129.3
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	30.03	762.7	30.16	766.1	47.8	8.8	84	8	3	11	1	2	1	1	4	.....	8558	13772	4	3.27	83.1
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.14	765.5	30.16	766.1	53.1	11.7	87	3	4	2	5	1	3	.....	13	.....	11360	18282	5	4.71	119.6
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.14	765.5	30.18	766.6	49.6	9.8	85	5	2	2	3	.....	.....	2	14	3	4808	7738	5	4.14	105.2
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	30.07	763.8	30.17	766.3	48.0	8.9	84	5	4	2	4	1	.....	1	10	4	5708	9186	5	1.95	49.5
Albany	N. 42 39	W. 73 45	7.05 a.m.	83	25	30.12	765.0	30.20	767.1	47.0	8.3	84	7	4	.....	.....	8	.....	3	3	6	4241	6825	6	2.43	61.7
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	30.02	762.5	30.18	766.6	52.8	11.6	78	7	6	6	3	.....	1	.....	7	1	6048	9733	4	3.90	99.1
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	30.08	764.0	30.19	766.8	52.8	11.6	78	6	8	3	2	1	2	2	6	1	7015	11289	4	1.89	48.0
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.16	766.1	30.18	766.6	54.2	12.3	84	5	6	6	3	1	1	1	8	.....	12943	20829	4	6.70	170.2
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.18	766.6	30.18	766.6	54.4	12.4	88	7	9	2	4	1	4	2	2	.....	6526	10502	4	8.16	207.3
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.15	765.8	30.18	766.6	53.1	11.7	76	11	7	3	1	.....	1	1	5	2	3796	6109	4	1.39	35.3
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.10	764.5	30.20	767.1	50.8	10.4	82	4	11	1	3	1	1	5	4	3602	5797	4	1.20	30.5
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.18	766.6	30.17	766.3	58.3	14.6	86	7	9	4	5	2	1	1	2	.....	7615	12255	4	1.91	48.5
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.17	766.3	30.17	766.3	59.8	15.4	83	5	4	5	5	2	.....	1	8	1	9920	15964	4	0.63	16.0
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.53	750.0	30.21	767.3	46.9	8 3	88	1	4	3	4	2	1	4	2	10	1921	3092	3	1.01	25.6
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.16	766.1	30.17	766.3	57.0	13.9	85	6	2	2	4	3	1	1	9	3	4148	6676	4	1.31	33.3
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.18	766.6	30.17	766.3	62.0	16.7	80	3	8	4	.....	3	.....	3	10	.....	10605	17067	4	0.02	0.5
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.17	766.3	30.16	766.1	64.0	17.8	86	11	4	2	1	.....	.....	1	10	2	6054	9743	4	0.98	24.9
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.18	766.6	30.16	766.1	60.6	15.9	88	9	8	1	4	.....	.....	2	7	.....	9193	14794	2	0.60	15.2
Smithville	N. 33 55	W. 78 01	6.48 a.m.	34	10	30.14	765.5	30.15	765.8	57.1	13.9	87	19	2	2	2	.....	.....	1	5	.....	6080	9785	3	1.16	29.5
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.14	765.5	30.17	766.3	56.7	13.7	87	3	4	1	2	1	1	3	15	1	3879	6242	3	0.48	12.2
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.38	746.2	30.21	767.3	51.3	10.7	93	7	4	1	2	1	1	.....	11	4	3158	5082	2	0.34	8.6
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.13	765 3	30.15	765.8	61.4	16.3	85	14	2	2	.....	1	.....	1	10	1	5647	9088	4	0.01	2.5
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.04	763.0	30.20	767 1	51.7	10.9	94	6	7	4	2	1	.....	.....	6	5	2493	4012	2	0.14	3.6
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.10	764.5	30.16	766.1	60.0	15.6	88	16	2	3	.....	.....	1	4	5	.....	4743	7633	3	0.90	22.9
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.10	764.5	30.11	764.8	64.1	17.8	87	2	5	2	1	1	.....	3	14	3	4571	7356	4	2.47	62.7
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.12	765.0	30.10	764.5	66.5	19.2	81	8	3	.....	.....	.....	1	2	17	.....	7448	11986	3	2.53	64.3
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.00	762.0	29.98	761.5	77.1	25.1	80	.....	1	.....	.....	1	2	11	16	.....	9902	15935	6	3.32	84.3
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.05	763.3	30.04	763.0	70.0	21.1	86	15	1	1	.....	2	.....	3	8	1	6702	10786	5	8.75	222.2
Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	29.04	737.6	30.20	767.1	53.5	11.9	78	.....	6	4	.....	1	1	8	11	.....	6552	10544	2	0.03	1.0
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.12	765.0	30.10	764.5	62.9	17.2	78	13	1	.....	1	.....	1	5	10	.....	5535	10517	3	0.20	5.1
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.18	766.6	30.13	765.3	59.3	15.2	83	14	8	.....	1	.....	1	3	4	.....	5639	8109	3	0.13	3.3
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.95	760.7	30.15	765.8	56.6	13.7	81	5	6	1	1	.....	1	10	7	.....	3786	6093	3	0.03	1.0
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.96	761.0	30.16	766.1	56.8	13.8	88	3	.....	.....	2	.....	4	8	7	7	3740	6019	3	0.64	16.3
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.09	764.3	30.11	764.8	64.5	18.1	82	7	1	.....	.....	1	2	1	18	1	6025	9696	2	0.22	5.6
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.94	760 5	30.15	765.8	57.2	14.0	91	6	2	2	1	2	6	2	3	7	3169	5100	2	3.59	91.2
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.69	754.1	30.17	766.3	52.3	11.3	93	3	.....	1	.....	.....	6	14	1	6	2894	4657	3	1.53	38.9
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.88	758.9	30.16	766.1	53.7	12.1	88	4	7	1	.....	.....	2	1	.....	16	2151	3462	3	1.07	27.2
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.12	765.0	30.12	765.0	68.7	20.4	79	5	.....	1	1	.....	7	5	11	1	7144	11497	3	1.93	49.0
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.64	752.8	30.17	766.3	56.9	13.8	84	5	1	2	.....	4	8	4	7	.....	5676	9134	3	1.95	49.5
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.33	745.0	30.11	764.8	60.7	15.9	93	12	.....	.....	.....	2	3	5	7	2	5566	8958	5	0.62	15.8
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	30.05	763.3	30.06	763.5	67.8	19.9	93	10	1	1	.....	2	2	7	5	3	4347	6996	2	0.55	14.0
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.91	759.7	30.11	764.8	65.3	18.5	90	8	3	.....	.....	.....	2	5	2	11	2418	3891	4	0.13	3.3
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.42	747.3	30.23	767.8	50.2	10.1	88	4	4	2	1	1	3	3	10	3	3370	5423	3	1.28	32.5
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.21	741.9	30.24	768.1	47.8	8.8	94	5	1	.....	2	.....	.....	1	6	16	2267	3648	4	0.87	22.1
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.88	758.9	30.20	767.1	53.8	19.1	81	5	10	3	1	.....	4	3	4	1	4010	6453	2	0.59	15.0
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.64	752.8	30.20	767.1	49.2	9.6	86	3	9	3	.....	1	1	9	.....	5	3384	5446	3	0.51	13.0
Louisville	N. 38 15	W 85 45	6.17 a.m.	551	168	29.64	752.8	30.22	767.6	49.6	9.8	81	8	5	2	1	1	3	1	2	8	3255	5238	3	0.64	16.3
Greencastle	N. 39 39	W. 86 51	6.13 a.m.	897	273	29.26	743.2	30.21	767.3	49.4	9.7	82	6	2	4	4	4	8	1	2	.....	3527	5676	3	0.62	15.8
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.40	746.7	30.21	767.3	46.6	8.1	83	3	6	3	3	8	1	1	2	4	3161	5087	3	1.20	30.5
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.57	751.1	30.23	767.8	47.7	8.7	88	4	2	3	1	1	10	2	3	5	4275	6880	4	0.82	20.8
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.35	745.5	30.22	767.6	46.0	7.8	84	4	5	4	2	3	4	1	1	7	4047	6513	4	1.13	28.7
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.30	744 2	30.18	766.6	48.2	9.0	86	6	8	5	6	.....	2	1	2	1	3833	6168	4	1.06	26.9
Lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.51	749.5	30.19	766.8	46.2	7.9	85	2	4	4	10	2	2	4	3	.....	8461	13616	6	2.30	58.4
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.44	747.8	30.19	766.8	49.0	9.4	84	1	3	3	6	7	3	1	7	.....	8070	12987	6	1.67	42.4
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.80	756.9	30.17	766.3	46.8	8.2	80	1	4	2	1	13	1	2	6	1	7790	12537	6	2.12	53.8
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.46	748 3	30.19	766.8	49.7	9.8	73	2	3	.....	7	10	1	4	2	2	6554	10547	6	1.73	43.9
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.53	750.0	30.21	767.3	48.6	9.2	82	3	1	6	7	9	1	1	3	.....	9304	14973	4	1.24	31.5
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.46	748.3	30.19	766.8	48.1	8.9	78	4	1	3	.....	8	10	4	1	.....	6621	10655	6	0.47	11.9
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.51	749.5	30.21	767.3	46.5	8.1	82	4	3	5	9	7	.....	1	1	1	5222	8404	5	1.60	40.6
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.48	748.8	30.19	766.8	50.3	10.2	80	6	1	4	9	3	1	1	5	1	5145	8280	4	1.04	26.4
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.49	749.0	30.16	766.1	43.1	6.2	88	2	3	11	4	2	3	1	3	2	6325	10179	6	1.80	45.7
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.46	748.3	30.13	765.3	43.7	6.5	86	8	5	3	8	4	1	.....	2	.....	6038	9717	4	3.03	77.0
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.49	749.0	30.16	766.1	48.5	9.2	82	4	2	2	1	10	6	1	5	.....	8412	13538	6	2.50	63.5
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.46	748.3	30.13	765.3	47.0	8.3	80	4	3	4	9	.....	2	5	.....	4	6478	10425	5	3.13	79.5
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.37	746.0	30.11	764.8	46.4	8.0	79	2	7	15	1	4	1	.....	.....	1	7734	12446	6	2.15	54.6
Port Huron	N. 43 00	W. 82 26	6.30 a.m	633	193	29.50	749.3	30.18	766.6	46.4	8.0	88	1	4	3	4	10	4	2	3	.....	6426	10342	5	1.31	33.3
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.46	748.3	30.17	766.3	51.7	10.9	76	2	4	1	5	10	6	2	1	.....	5568	8961	4	1.42	36.1
Green Bay	N. 44 31	W. 87 54	6.09 a.m.	616	188	29.47	748.5	30.15	765.8	45.9	7.7	91	4	4	1	4	14	2	1	1	.....	6457	10391	5	5.40	137.2
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.40	746.7	30.16	766.1	47.5	8.6	78	3	6	4	10	2	3	1	2	.....	7408	11922	5	2.31	58.7
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.35	745.5	30.10	764.5	41.7	5.4	83	3	4	.....	5	1	1	.....	8	9	4156	6688	4	2.45	62.2
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.20	741.7	30.10	764.5	44.0	6.7	82	1	6	2	.....	2	4	13	.....	3	4483	7714	5	0.72	18.3
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.39	746.5	30.17	766.3	47.0	8.3	81	4	2	2	1	17	1	1	2	.....	6013	9677	3	1.71	43.4
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.50	749.3	30.16	766.1	41.6	5.3	78	3	3	2	7	4	3	2	3	4	5416	8716	4	3.47	88.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for October, 1886.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.												
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. STATES—Con.																									
U. Miss. val.—Con.	° ′	°																							
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.25	742.9	30.14	765.5	49.5	9.7	85	4	3	3	6	4	.....	1	1	9	3804	6122	4	2.62	66.6
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.44	747.8	30.16	766.1	47.1	8.4	81	2	5	4	2	8	.....	2	2	6	3287	5290	3	4.08	103.6
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.51	749.5	30.17	766.3	49.9	9.9	79	3	5	1	4	9	6	2	1	.....	5595	9004	3	2.38	60.4
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.84	757.9	30.21	767.3	50.9	10.5	86	8	2	4	2	4	3	4	4	.....	4441	7147	3	0.45	11.4
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.53	750.0	30.21	767.3	50.4	10.2	78	3	5	1	7	10	1	1	.....	3	5155	8296	2	0.80	20.3
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.60	751.8	30.19	766.8	55.0	12.8	69	3	4	2	5	11	1	1	2	2	a6230	a10026	3	0.85	21.6
Missouri valley.																									
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.29	744.0	30.17	766.3	50.4	10.2	86	2	3	1	.....	17	2	.....	.....	6	4847	7800	4	1.80	45.7
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.97	735.8	30.15	765.8	49.1	9.5	83	3	2	1	2	10	5	.....	.....	8	5598	9009	5	1.33	33.8
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.35	720.1	30.04	763.0	41.9	5.5	70	4	7	.....	.....	.....	10	2	4	4	7274	11706	2	0.49	12.4
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.66	728.0	30.07	763.8	40.2	4.6	83	3	6	1	.....	.....	1	16	.....	4	6880	11072	3	1.26	32.0
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	374	28.74	730.0	30.06	763.5	45.4	7.4	82	1	5	3	3	10	6	2	.....	1	6414	10322	3	0.31	7.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.12	739.6	30.20	767.1	50.5	10.3	88	3	2	1	3	16	4	1	1	.....	5945	9567	2	2.29	58.2
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.34	694.4	30.05	763 3	42.7	5.9	81	.....	7	2	14	1	3	1	3	.....	9397	15123	4	0.27	6.9
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.03	737.3	30.06	763.5	39.2	4.0	83	8	4	.....	2	12	4	.....	1	.....	8953	14408	6	2.21	56.1
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.15	740.4	30.06	763.5	36.3	2.4	87	7	6	2	.....	13	3	.....	.....	.....	7366	11854	5	1.36	34.5
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.22	716 8	30.06	763 5	38.7	3.7	79	7	5	2	1	2	5	3	2	4	5489	8834	4	0.65	16.5
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.98	710.7	29.99	761.7	36.1	2.3	90	2	8	2	1	5	3	4	4	2	5383	8663	4	1.57	39.9
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.41	721.6	30.06	763.5	37.8	3.2	82	1	4	4	1	9	.....	2	5	5	9639	15512	5	1.16	29.5
Rocky Mount. reg.																									
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2729	829	27.20	690.9	30.05	763.3	40.1	4.5	67	.....	.....	2	18	4	5	1	1	.....	8194	13187	5	0.51	13.0
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.88	682.7	30.05	763.3	38.3	3.5	80	6	1	1	6	6	9	1	1	5	4508	7255	4	1.63	41.4
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.59	650.0	30.02	762.5	39.1	3.9	69	1	20	1	3	.....	1	1	4	.....	7659	12326	4	0.19	4.8
Fort Shaw *d*	N. 47 31	W. 111 48	4.33 a.m.	3550	1082	26.40	670.5	30.06	763.5	38.8	3.8	74	1	1	13	2	.....	1	.....	3	6	2112	3399	5	0.94	23.9
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.86	656.8	30.04	763 0	38.4	3.6	75	1	5	8	14	.....	.....	.....	2	1	4984	8021	5	1.57	39.9
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2000	610	27.88	708.1	30.04	763.0	32.0	0.0	84	7	1	12	2	.....	2	.....	6	1	5047	8122	4	0.40	10.2
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.40	645.1	30.08	764.0	42.1	5.6	75	2	1	.....	5	4	1	.....	8	10	2627	4228	3	0.96	24.4
Cheyenne	N. 41 08	W. 104 48	5.01 a.m.	6105	1861	24.03*a*	610.4*a*	30.01*a*	762.2*a*	39.6	4.2	65	4	16	3	.....	2	2	1	1	1	6226*a*	10020*a*	4	0.37	9.4
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.14	689.3	30.08	764.0	44.5	6.9	85	2	3	4	1	6	6	6	3	.....	6662	10721	3	0.59	15.0
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.84	453.1	30.09	764.3	19.0	−7.2	76	3	5	11	6	2	.....	.....	3	1	15401	24785	2	1.31	33.3
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.67	728.2	30.12	765.0	50.4	+10.2	70	2	1	1	2	10	2	2	2	9	6392	10287	4	1.25	31.8
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.80	629.9	30.04	763.0	41.9	5.5	68	3	2	1	3	19	.....	2	1	.....	5182	8340	3	0.33	8.4
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.10	662.9	30.03	762.7	41.3	5.2	82	.....	2	15	5	2	1	3	.....	3	4450	7162	3	0.20	5.1
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2524	770	27 50	698.5	30.12	765.0	49.5	9.7	83	2	1	.....	.....	2	21	2	2	1	7506	12080	4	0.45	11.4
Fort Elliott *b*	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.55	699.8	30.04	763.0	50.8	10.4	86	3	2	2	2	5	8	1	.....	6	8085	13011	5	5.04	128.0
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.92	734.6	30.16	766.1	54.4	12.4	88	7	.....	1	1	5	2	7	2	6	6951	11186	3	7.10	180.3
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.33	719.6	30.12	765.0	57.4	14.1	84	3	.....	1	9	16	.....	.....	2	.....	8076	12997	3	2.24	56.9
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.27	641.8	30.04	763.0	55.1	12.8	70	.....	3	4	18	.....	.....	.....	1	5	4323	6957	2	0.71	18.0
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1598?	24.07	611.4	30.00	762.0	38.8	3.8	75	.....	13	3	2	1	7	1	2	2	4209	6774	2	1.32	33.5
Plateau region.																									
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26 32	668.5	29.93	760.2	51.3	10.7	36	6	3	1	.....	1	4	6	4	6	5512	8870	1	0.01	0.2
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.36	593 3	30.09	764.3	42.5	5.8	67	4	.....	.....	1	4	4	13	5	.....	4861	7823	2	1.06	26.9
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.27	692.6	30.00	762.0	48.9	9.4	86	.....	2	.....	3	7	7	2	1	9	2489	4006	1	1.12	28.4
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.10	637.5	30.08	764.0	41.9	5.5	71	1	.....	.....	4	1	.....	13	5	7	5164	8310	2	1.66	42.2
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.27	641.8	30.04	763.0	54.0	12.2	52	6	4	.....	.....	1	2	10	8	.....	5462	8790	1	0.57	14.5
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.76	628.9	30.04	763.0	49.2	4.6	74	2	.....	.....	7	4	4	.....	1	13	4951	7968	1	0.23	5.8
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.81	757.2	29.92	760.0	58.1	14.5	71	1	3	.....	.....	1	4	5	11	6	3707	5966	0	1.11	28.2
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.33	668.8	30.04	763.0	52.0	11.1	82	4	1	5	3	.....	2	5	4	7	2736	4403	2	0.80	20.3
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.54	597.9	30.09	764.3	31.1	−0.5	86	1	.....	.....	18	7	1	2	.....	5184	8343	4	0.93	23.6
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.66	651.8	30.02	762.5	46.5	+8.1	70.0	4	.....	.....	.....	.....	7	8	3	8	4193	6748	3	1.98	50.3
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.72	602.5	29.92	760 0	42.1	5.6	59	8	4	4	11	3	1	.....	.....	.....	9433	15181	2	0.60	15.2
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.65	651.5	30.06	763.5	35.4	1.9	73	.....	.....	.....	.....	11	1	.....	18	1	4750	7644	4	1.72	43.7
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.36	618.7	30.04	763.0	39.5	4.2	74	.....	.....	.....	.....	5	5	17	4	.....	4468	7190	3	0.95	24.1
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.42	615 7	30.10	764.5	39.3	4.1	76	2	11	9	1	2	1	3	.....	.....	3101	4990	5	1.36	34.5
Bolsé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.22	691.4	30.08	764.0	41.4	5.2	79	2	2	.....	2	1	8	5	3	8	2481	3993	4	0.72	18.3
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.01	711.4	30.06	763.5	38.8	3.8	81	5	.. ..	8	3	3	.....	1	7	4	2951	4749	4	2.11	53.6
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	29.00	736 6	30.10	764.5	45.1	7.3	78	.....	.....	.....	.....	12	14	4	.....	.....	3805	6123	4	1.95	49.5
Pacific coast reg'n.																									
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.84	757.9	30.03	762.7	50.4	10.2	89	.....	.....	10	5	8	6	.....	.....	2	6721	10816	3	5.24	133.1
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.04	763.0	30.08	764.0	44.3	6.8	96	3	2	.....	3	13	.....	2	4	4	2132	3431	5	4.15	105.4
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.04	763.0	30.06	763.5	40.6	4.8	97	.....	.....	.....	.....	1	30	.....	.....	.....	2475	3983	6	1.88	47.8
Tatoosh Id.	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.93	760.2	30.03	762.7	49.2	9.6	89	.....	.....	.....	.....	9	.....	5	15	.....	7630	12279	5	7.81	198.4
Portland	N. 45 32	W. 122 43	3.49 a.m.	80	24	29.37	746.0	30.07	763.8	46.6	8.1	93	1	7	.....	1	6	7	.....	.....	.....	3097	4984	5	2.87	72.9
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.55	750.6	30.12	765.0	45.1	7.3	95	1	1	.....	.....	.....	4	2	4	19	1677	2699	5	3.43	87.1
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.39	746.5	30.06	763.5	51.1	10.6	86	18	.....	.....	.....	9	2	.....	1	1	11876	19112	5	3.04	77.2
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	342	104	29.69	754.1	30.03	762.7	52.5	11.4	67	12	.....	.....	.....	8	2	.....	5	4	3038	4889	3	1.76	44.7
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	29.97	761.2	30.02	762.5	49.4	9.7	85	7	4	1	2	2	13	.....	.....	2	3583	5766	1	0.68	17.3
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.00	762.0	30.04	763.0	52.8	11.6	87	.....	3	5	14	1	6	.....	1	1	5449	8769	3	1.48	37.6
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.68	753.9	30.00	762.0	51.2	10.7	87	3	2	.....	.....	2	2	2	9	11	4076	6560	4	0.02	0.5
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	29.96	761.0	30.00	762.0	55.2	12.9	87	6	.....	1	1	4	1	6	2	10	4047	6513	5	0.05	1.3
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.71	754.6	29.81	757.2	44.3	6.8	85	.....	6	1	1	.....	17	4	.....	2	7471	12023	7	24.82	630.4
Sub-Series.																									
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.03	559.6	.....	.....	52.9	11.6	83	.....	.....	.....	.....	.....	.....	.....	.....	31	.....	.....	6	.....	.....
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	.....	.....	29.89	759.2	76.1	24.5	87	19	.....	.....	.....	.....	3	1	.....	8	.....	.....	6	3.90	99.1
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.00	762.0	29.92	760.0	82.2	27.9	77	.....	.....	.....	.....	.....	1	26	4	.....	.....	.....	3	2.64	67.0
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.4	23.6	80	.....	6	1	3	1	2	4	6	8	.....	.....	6	10.40	264.2
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	63.9	17.7	.....	31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.94	557.3
Vera Cruz	N 19 11	W. 96 09	5.35 a.m	16	5	.....	.....	29.93	760.2	.....	.....	.....	9	3	11	1	.....	.....	.....	.....	7	.....	.....	2	.....	.....

*Mr. C. J. Lyons of the Hawaiian Government Survey, furnishes the following table, computed from observations made at 10 a. m., 4 and 9 p. m., except those marked *, which are from 10 a. m. and 4 p. m. The observations were made at Honolulu, Hawaiian Islands, Lat. 21° 18′ N., Long. 157° 50′ W. Barometer 32 and thermometer 52 feet above sea-level.*

Year and month.	Barometer.	Temperature.	Wind direction.								Total movement.	Average cloudiness.	Precipitation.
			North.	Northwest.	West.	Southwest.	South.	Southeast.	East.	Northeast.			
	Inches.	°									*Miles.*	0–10	*Inches*
1885.													
August	30.00	78.3	....	.....	.....	.....	4	1	....	26	.....	4	2.94
September	30.05	78.0	3	.....	.....	.....	.....	.....	3	24	.....	4	1.25
October	30.06	76.5	5	....	1	.....	1	3	....	21	.....	3	0.72
November	30.13	75.0	....	1	1	.....	1	1	1	26	.....	5	4.00
December	30.10	69.2	8	1	1	2	3	....	3	13	.....	5	4.35
1886.													
January	30.01	69.7	3	1	5	10	8	.....		4	1,320	4	0.99
February	30.05	71.6	.....	.....	4	3	2	1	....	18	2,448	3	1.32
March	30.12	72.1	2	....	3	4	6	2	2	12	3,051	4	1.97
April	30.13	73.2	....	.....	.....	1	2	....	4	23	4,282	4	1.47
May	30.16	73.7	1	.....	.....	.....	.....	....	1	29	5,164	4	3.51
June	30.15	75.9	....	.....	.....	.....	.....	.....	.....	30	4,682	4	1.44
July	30.12	77.1	*a1*	.....	.....	.....	.....	.....	.....	29	3,988	*g4*	1.04
August	30.09	77.4	.....	.....	.....	.....	.....	1	1	29	3,303	.....	1.95
September	30.05	78.9	1	.....	.....	.....	1	1	1	26	1,244	*c7*	6.27

Year and month.	Barometer.	Temperature.	Wind direction.								Total movement.	Average cloudiness.	Precipitation.
			North.	Northwest.	West.	Southwest	South.	Southeast.	East.	Northeast.			
1886.	*Inches.*	°									*Miles.*	0–10	*Inches*
October	30.08	78.2	1	.....	.....	.....	....	4	....	1	25	*a4*	2.40
November	30.08	74.4	2	1	....	4	5	1	....	14	707	*c6*	10.48
December	30.09	71.5	....	1	....	4	7	.....	.....	19	797	*h4*	4.95
1887.													
January	30.06	70.9	3	....	1	3	.....	6	.....	18	1,537	*c4*	7.18
February	29.97	70.5	2	.....	.....	6	4	1	1	14	.....	6	6.12
March	30.06	70.1	4	.....	.....	1	1	1	2	22	.....	4	2.66
April	30.06	72.5	1	.....	.....	4	3	2	.....	20	.....	5	3.75
May	30.05	73.2	.....	.....	.....	3	2	2	....	24	.....	6	5.80
June	30.03	75.5	1	.....	.....	.....	2	.....	.....	27	.....	*c4*	1.64
July	*30.05	77.0	.....	.....	.....	.....	.....	.....	2	29	.....	4	1.31
August	*30.00	77.0	.....	.....	.....	.....	.....	.....	.....	31	.....	4	1.74
September	*29.98	76.4	*a3*	.....	.....	.....	.....	.....	.....	26	.....	4	1.42
October	*29.96	75.8	3	.....	.....	5	2	1	2	18	.....	*a4*	2.62

OCEAN SQUARE DATA FOR OCTOBER, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° °															
N. 12.5 W. 22.5															
12.5 27.5															
12.5 32.5															
12.5 37.5	30.00	762.0								4	18	4		5	3.8
12.5 42.5	29.99	761.7								6	18	2		4	3.9
12.5 47.5	29.97	761.2								12	14	1		4	3.9
12.5 52.5	29.93	760.2							2	13	13			3	3.5
17.5 22.5															
17.5 27.5															
17.5 32.5															
17.5 37.5	30.03	762.7								1	23	5		2	3.6
17.5 42.5	30.02	762.5							1	8	15	4		3	3.9
17.5 47.5	30.00	762.0							3	10	12	2		4	4.1
17.5 52.5	29.96	761.0							5	16	9			1	4.0
17.5 57.5	29.91	759.7							3	6	22				3.9
22.5 22.5															
22.5 27.5	30.10	764.5			2					1	17	10		1	3.9
22.5 32.5	30.09	764.3			1				1	2	19	7		1	3.8
22.5 37.5	30.08	764.0			1				1	10	15	4			3.7
22.5 42.5	30.06	763.5							2	9	15	5			4.0
22.5 47.5	30.03	762.7							4	10	12	5			4.4
22.5 52.5	30.00	762.0			1			2	4	8	15			1	4.3
22.5 57.5	29.97	761.2				1	2		2	8	14	2		2	4.3
22.5 62.5	29.94	760.5			6			1	4	6	10	4			4.1
22.5 67.5															
22.5 72.5															
27.5 22.5	30.13	765.3			4	2			1	1	8	13	1	1	3.7
27.5 27.5	30.16	766.1			2	1	1			4	10	12		1	3.8
27.5 32.5	30.16	766.1			2				1	11	12	4		1	3.8
27.5 37.5	30.12	765.0						1	3	12	9	6			3.9
27.5 42.5	30.10	764.5			2				7	8	9	5			4.4
27.5 47.5	30.07	763.8			1			2	7	5	9	6	1		4.4
27.5 52.5	30.04	763.0			1		1	3	6	8	7	4		1	4.2
27.5 57.5	30.02	762.5			3	1		1	4	8	7	3		4	4.5
27.5 62.5	29.98	761.5			5	1	1	3	4	6	7	2	1	1	4.2
27.5 67.5															
27.5 72.5															
27.5 77.5															
32.5 12.5															
32.5 17.5															
32.5 22.5															
32.5 27.5	30.24	768.1			5	6	1	2	5	6	3	3			3.9
32.5 32.5	30.20	767.1			5	2		2	10	4	4	4			4.0
32.5 37.5	30.18	766.6			5		2	1	9	4	5	5			4.0
32.5 42.5	30.15	765.8			5			2	10	3	5	6			4.6
32.5 47.5	30.11	764.8			4	1	2	2	7	7	3	4	1		4.5
32.5 52.5	30.06	763.5			1	1	1	3	7	5	6	5	1	1	4.0
32.5 57.5	30.04	763.0			4			3	8	4	4	6		2	4.2
32.5 62.5															
32.5 67.5															
32.5 72.5															
32.5 77.5															
37.5 12.5															
37.5 17.5															
37.5 22.5															
37.5 27.5															
37.5 32.5	30.18	766.6			5	6	2	8	5	2	1	1		1	4.4
37.5 37.5	30.17	766.3			4	5	4	5	8	1	1	3			4.6
37.5 42.5	30.15	765.8			5	4	1	5	8	3	1	3	1		4.6
37.5 47.5	30.12	765.0			4	3	2	5	6	5	2	4			4.6
37.5 52.5	30.09	764.3			4	4	2	3	5	3	3	7			4.7
37.5 57.5	30.09	764.3			3	1	3	3	5	2	3	11			4.5
37.5 62.5															
37.5 67.5															
37.5 72.5															
42.5 12.5															
42.5 17.5															
42.5 22.5	30.03	762.7			5	10	8	4	1	1	1	1			5.1
42.5 27.5	30.07	763.8			4	11	7	4	3	1		1			5.0
42.5 32.5	30.08	764.0			1	13	3	7	4	1		1	1		4.7
42.5 37.5	30.08	764.0			2	11	5	5	5			1	2		5.1
42.5 42.5	30.09	764.3			4	8	5	8	2	2		1	1		4.5
42.5 47.5	30.10	764.5			4	8	4	6	2		2	3	2		4.9
42.5 52.5	30.12	765.0			6	9	3	5	4		3	1			4.5
42.5 57.5	30.13	765.3			8	8	1	4	3	3	1	3			4.5
42.5 62.5															
42.5 67.5															
47.5 12.5															
47.5 17.5	29.84	757.9			3	8	9	5	2	1	1	2			6.3
47.5 22.5	29.88	758.9			2	10	9	5	3		1	1			6.0
47.5 27.5	29.91	759.7			2	12	10	3	3	1					6.0
47.5 32.5	29.93	760.2			2	9	9	5	4	1		1			5.9
47.5 37.5	29.94	760.5			1	9	15		5	1					5.9
47.5 42.5	29.96	761.0				12	9	5	1	2	1	1			5.8
47.5 47.5	29.98	761.5			2	10	11	5		3					5.0
52.5 12.5															
52.5 17.5	29.71	754.6			3	7	5	7	5	1	1	2			5.9
52.5 22.5	29.69	754.1			3	9	4	10	2	2	1				5.9
52.5 27.5	29.71	754.6			3	8	11	5	3			1			6.0
52.5 32.5	29.75	755.6			3	12	9	4	3						5.7
52.5 37.5	29.75	755.6			1	9	10	5	3	1				2	6.1
52.5 42.5	29.78	756.4			3	11	7	5		2	1			2	5.4
52.5 47.5	29.85	758.2			3	12	8	3	1	1		2		1	5.4
57.5 12.5	29.61	752.1			2	1	1	11	4	8	2	2			5.3
57.5 17.5	29.52	749.8			1	4	2	10	4	4		5	1		5.1
57.5 22.5	29.52	749.8			3	6	5	7	3	2		3		2	5.4
57.5 27.5	29.54	750.3			3	10	5	3	5		1			3	5.0
57.5 32.5	29.55	750.6			3	10	2	4		1	1	1		9	5.4
57.5 37.5															
57.5 42.4															
57.5 47.5															

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

REVIEW.

INTERNATIONAL METEOROLOGY FOR OCTOBER, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of October, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean pressure occupies the north Atlantic Ocean north of the fifty-fifth parallel, with barometric minima ranging below 29.60 (751.8). A second area of low mean pressure, bounded by the isobar of 29.70 (754.4), is located over central British India. Four areas of relatively low mean pressure showing values below 29.90 (759.4) appear, two of which are charted on the Pacific coast of North America; one extends over the Sea of Okhotsk, and one embraces a greater portion of the Caribbean Sea.

The area of highest mean pressure occupies a limited area over the interior of Asia between the forty-fifth and fifty-fifth parallels, with barometric maxima ranging above 30.40 (772.1). Two areas of high pressure, encircled by isobars of 30.20 (767.1), are charted over the north Atlantic Ocean south of the Azores and over the east-central portion of the United States, respectively.

Over the North American continent the mean pressure ranges from below 29.90 (759.4) over the Gulf of California, and on the Pacific coast north of the fifty-third parallel, to above 30.20 (767.1) in the region lying south of the Great Lakes. Over the north Atlantic Ocean there is a barometric gradient of about .74 of an inch between the thirty-fourth and sixtieth parallels. Over a greater part of Europe the mean pressure ranges above 30.10 (764.5), and a rather steep gradient is shown between longitude ten degrees east and the region of barometric minima over the north Atlantic. Over Asia there is a range of over .70 southwestward, and over .50 of an inch eastward, from the area of barometric maxima.

Over the United States the mean pressure for October, when compared with that of the preceding month, has increased about .10 of an inch in the east-central districts; elsewhere there has been a general increase, which nowhere exceeds .10 of an inch. Within the area of mean high pressure over the north Atlantic Ocean there has been an increase of about .10, while to the northward of the fifty-fifth parallel the pressure averages about .10 of an inch lower than in September. Over the British Isles there has been a decrease of .10 to .20 of an inch. Over the continent of Europe the mean pressure has generally increased, except over Spain and Portugal, where it is somewhat lower. Over Asia there has been an increase of .10 in British India, .20 over central Asia, and .10 of an inch over the Sea of Okhotsk.

In the United States the mean pressure for the month was in excess of the normal, except over a comparatively small area covering the northern and middle plateau regions, where it was normal or slightly below. In Canada the average pressure was above the normal at all points east of the Great Lakes, the excess being greatest at Halifax, where it amounted to .16 of an inch. In the Northwest Territories it was slightly below the normal obtained from three years. Over the British Isles the mean pressure averages over .10 of an inch below the normal, although at northern stations the mean values were slightly above the October average for nine years. Over France and Spain the mean pressure was .07 and .05 of an inch below the normal, respectively. Over the balance of Europe the mean pressure was above the normal by amounts ranging from .04 in Italy to .27 of an inch in Sweden. Over British India the mean pressure was about .04 below the normal. At Zi-Ka-Wei, China, the mean pressure was deficient .10, while at Tokio, Japan, it was slightly in excess of the October normal.

In the United States the mean temperature was above the normal in the upper lake region, upper Mississippi valley, Missouri Valley, the extreme northwest, and in eastern Montana; in the Southern States and along the Pacific coast it was below the normal; in other districts the departures were small. In Canada the average temperature was slightly above the normal in Ontario and Quebec; in New Brunswick and Nova Scotia it was somewhat below. In the Northwest Territories it was 6° above the normal obtained from three years. At Victoria, B. C., it was .6° above the average of five years. In the British Isles the mean temperature averaged 3°.1 above the normal. Over the continent of Europe the means were above the normal, except in Russia and Spain, where they were 1°.6 and 5°.5 below, respectively. In British India and at Zi-Ka-Wei, China, and Tokio, Japan, the mean temperature was above normal.

The following are some of the extreme mean temperatures reported at individual stations:

Highest.	Fahr.	Cent.	Lowest.	Fahr.	Cent.
	°	°		°	°
Deesa, India	93.6	34.2	Ekaterinburg, Russia	26.4	— 3.1
Bridgetown, Barbadoes	83.5	28.6	Yeniseisk, Siberia	27.5	— 2.5
Paramaribo, D. Guiana, S. A	82.2	27.9	Nerchinsk, Siberia	28.8	— 1.8
Saint Vincent, Cape Verde Isl's	80.6	27.0	Fort Bridger, Wyoming	31.1	— 0.5
Batavia, Java	79.5	26.4	Q'Appelle, B. A	32.0	0.0
Manilla, Luzon	79.3	26.3	Sitka, Alaska	44.3	6.8

The following table shows the mean pressure and mean temperature for October, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years:

Countries.	Mean pressure.			Mean temperature.		
	Oct. mean of 9 (1877–'85) years.	Oct., 1886.	Departure.	Oct. mean of 9 (1877–'85) years.	Oct., 1886.	Departure.
				°	°	°
Austro-Hungary	29.98	30.05	+ 0.07	56.3	57.9	+ 1.6
British Isles	29.93	29.81	— 0.12	52.3	55.4	+ 3.1
Denmark	29.88	30.02	+ 0.14	49.3	51.8	+ 2.5
France	29.99	29.92	— 0.07	59.9	60.7	+ 0.8
Germany	29.98	30.03	+ 0.05	51.2	54.7	+ 3.5
India	29.78	29.74	— 0.04	81.3	82.4	+ 1.1
Italy	29.97	30.01	+ 0.04	64.4	67.2	+ 2.8
Norway	29.80	30.01	+ 0.21	45.5	45.5	normal.
Russia	30.03	30.13	+ 0.10	49.8	44.3	— 5.5
Spain*	30.01	29.96	— 0.05	64.4	62.8	— 1.6
Sweden	29.86	30.13	+ 0.27	42.7	45.0	+ 2.3

* Means for eight years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of October, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Oct. mean of 9 (1877–'85) years.	Oct., 1886.	Departure.	Oct. mean of 9 (1877–'85) years.	Oct., 1886.	Departure.
				°	°	°
Astrakhan, Russia	30.17	30.09	+ 0.08	56.8	49.6	— 7.2
Archangel, Russia	29.83	30.04	+ 0.21	38.0	35.6	— 2.4
Athens, Greece	30.01	29.94	— 0.07	72.3	73.2	+ 0.9
Beirut, Turkey in Asia	29.95	29.91	— 0.04	79.1	78.3	— 0.8
Barnaul, Siberia	30.17	30.14	— 0.03	38.2	30.7	— 7.5
Bridgetown, Barbadoes	29.96	29.83	— 0.13	82.8	83.5	+ 0.7
Ekaterinburg, Russia	30.03	30.18	+ 0.15	37.3	26.4	—10.9
Fort Napier, Natal, S. Africa	29.88	29.88	normal.	74.0	76.9	+ 2.9
Funchal, Madeira Islands	30.12	30.11	— 0.01	72.3	71.8	— 0.5
Gibraltar	30.05	30.03	— 0.02	67.6	68.3	+ 0.7
Havana, Cuba, W. I	29.97	29.95	— 0.02	74.9	73.0	— 1.9
Malta, Mediterranean Sea	.....	30.01	.....	73.5	74.2	+ 0.7
Melbourne, New South Wales	30.00	29.90	— 0.10	54.4	51.8	— 2.6
Mauritius, Indian Ocean	30.09	30.07	— 0.02	74.8	74.8	normal.
Nassau, Bahamas, W. I	30.00	29.98	— 0.02	79.6	79.0	— 0.6
Nikolaievsk-on-the-Amoor, Asia	.....	29.84	.....	.....	31.6	.....
Paramaribo, D. Guiana, S. A	29.98	29.92	— 0.06	80.8	82.2	+ 1.4
Ponta Delgada, Azores	30.15	30.18	+ 0.03	69.6	68.4	— 1.2
Sandwick Manse, Orkneys	29.82	29.86	+ 0.04	47.8	51.6	+ 3.8
San Juan de Puerto Rico, W. I	29.96	29.87	— 0.09	80.3	79.2	— 1.1
Tiflis, Russia	30.10	30.11	+ 0.01	66.1	64.2	— 1.9
Tokio, Japan	30.07	30.08	+ 0.01	58.5	61.0	+ 2.5
Yeniseisk, Siberia	30.13	30.07	— 0.06	29.8	27.5	— 2.3
Zi-Ka-Wei, China	30.15	30.05	— 0.10	61.0	62.8	+ 1.8

In the United States northerly winds prevailed in New Eng-

land, the middle and south Atlantic states, and in Florida; in the Lake region, extreme northwest, and in the Missouri and upper Mississippi valleys they were mostly from the south or southwest; in the middle and southern Pacific coast regions they were generally westerly; in other portions of the country they were variable. In Canada westerly winds prevailed east of the Great Lakes, while to the westward of the ninetieth meridian they were southerly. Over the north Atlantic Ocean the wind-directions were dominated by the cyclonic and anti-cyclonic areas which appear on the monthly mean chart. In Europe southerly winds prevailed along the west-central and southwestern coasts; elsewhere they were variable.

In the United States the precipitation was largely below the normal over a greater portion of the country, the only exceptions being the northern and middle portions of the Rocky Mountain region, the middle Pacific coast, northern Texas, and the western portion of Indian Territory, where the rainfall for the month was considerably in excess of the normal. In Canada the rainfall was deficient in amount, the greatest deficit occurring in the Maritime Provinces. In the British Isles the rainfall was in excess, except at stations in the northeast of Scotland, and in some parts of the southeast counties, where there was a deficiency.

TRACKS OF AREAS OF LOW PRESSURE FOR OCTOBER, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during October, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-one areas of low pressure are shown, of which, nine are traced over the North American continent; nine over the north Atlantic Ocean; six over Europe, and seven off the eastern coast of Asia, or over the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of October during the last thirteen years is 10.5, or 1.5 more than the number traced for October, 1886.

Of the areas of low pressure which appeared over the North American continent, two were continuations of storms traced from the Pacific Ocean, and two developed on the Pacific slope. Of the remaining depressions, one moved northwestward over the Gulf of Mexico, and one, the severest storm of the month, originated in Kansas. The tracks were generally more to the northward of the Saint Lawrence Valley than the average of previous years, and, as in September, 1886, no area of low pressure passed over the region bounded by the lower lakes, the Atlantic Ocean, and the east Gulf shore line.

These storms are described in detail in the MONTHLY WEATHER REVIEW for October, 1886, under the heading "Areas of low pressure."

Of the nine depressions traced over the north Atlantic Ocean, one was a continuation of a storm which advanced eastward from the ninety-fifth meridian; one moved northward from the Caribbean Sea; two first appeared in the sub-tropical region north of the West Indies, and two developed off the American coast in the vicinity of the fortieth parallel. The remaining storms apparently originated over the ocean east of the fortieth meridian, and, as a rule, pursued irregular paths to the westward and southward of the British Isles. The distribution of the paths of these depressions is shown on chart iii, and in the MONTHLY WEATHER REVIEW for October, 1886, the general atmospheric conditions which attended the passage of cyclonic areas over the ocean are given under the heading "North Atlantic storms."

Of the six depressions traced over Europe, two were continuations of storms which first appeared over the north Atlantic Ocean; two moved southeast over the White Sea into Russia; one apparently originated in east-central Russia and passed southeast into Asia; one advanced eastward over northern Ireland and recurved southeast over England into northern France and then circled northeasterly and apparently dispersed over the North Sea; one moved east through southern France, and one first appeared over the Bay of Biscay and passed northeast into the North Sea. Over central and southern Europe there was an entire absence of important depressions. The severest disturbances of the month attended the passage of depression number xxi (ocean storm number xii) over the British Isles and northern France during the 15th and 16th, when pressure ranging below 28.80 (731.5) was shown. Of the remaining depressions which appeared over Europe, numbers xx and xxii possessed marked energy, while numbers xix, xxiii, and xxiv were unaccompanied by noteworthy features.

Of the seven depressions traced off the eastern coast of Asia and over the north Pacific Ocean, three, numbers xxvii, xxix, and xxx, are taken from chartings of typhoons prepared by Prof. W. Doberck, director of the astronomical observatory at Hong-Kong, two of which moved westward from the Philippine Islands over the China Sea; two depressions appeared in the vicinity of Sitka, Alaska, and, moving southeastward, are continued as land low areas. An area of low pressure occupied the Sea of Okhotsk from the 7th to the 12th, inclusive, and from the 24th to the 27th, inclusive, the barometric pressure was low in the British Possessions northeast of Sitka, Alaska. The depressions possessed moderate energy, and the development of abnormal features attending their passage is not indicated by reports received.

SPECIAL NOTES.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch; temperature (by figures only) in degrees Fahrenheit.

Arrows show direction of, and fly with, the wind; force is shown as follows:

SYMBOLS.	FORCE.	VELOCITY.	
		MILES PER HOUR.	METRES PER SECOND.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

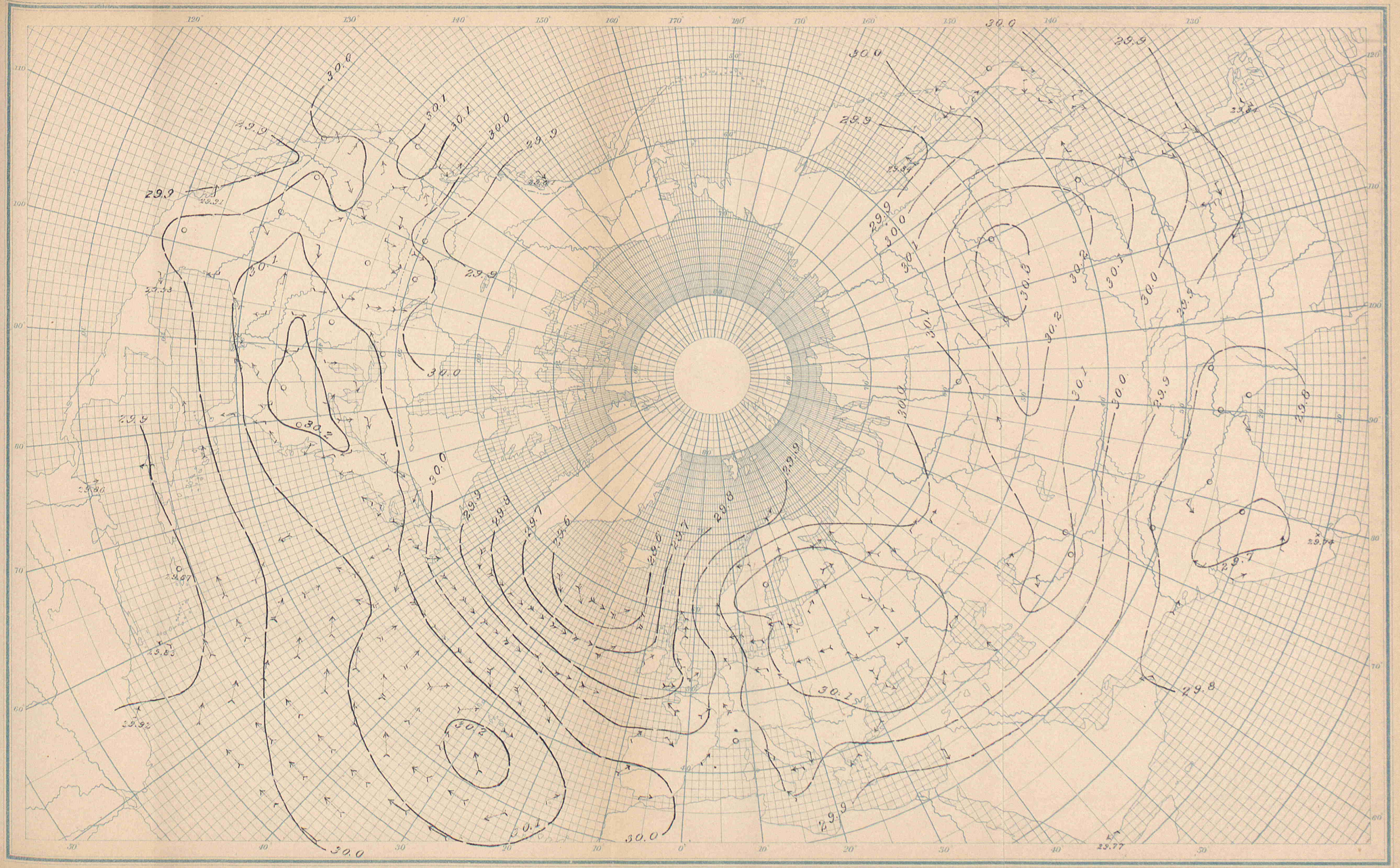
International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean temperature in degrees, Fahrenheit; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

Form No. 106 R---1887.

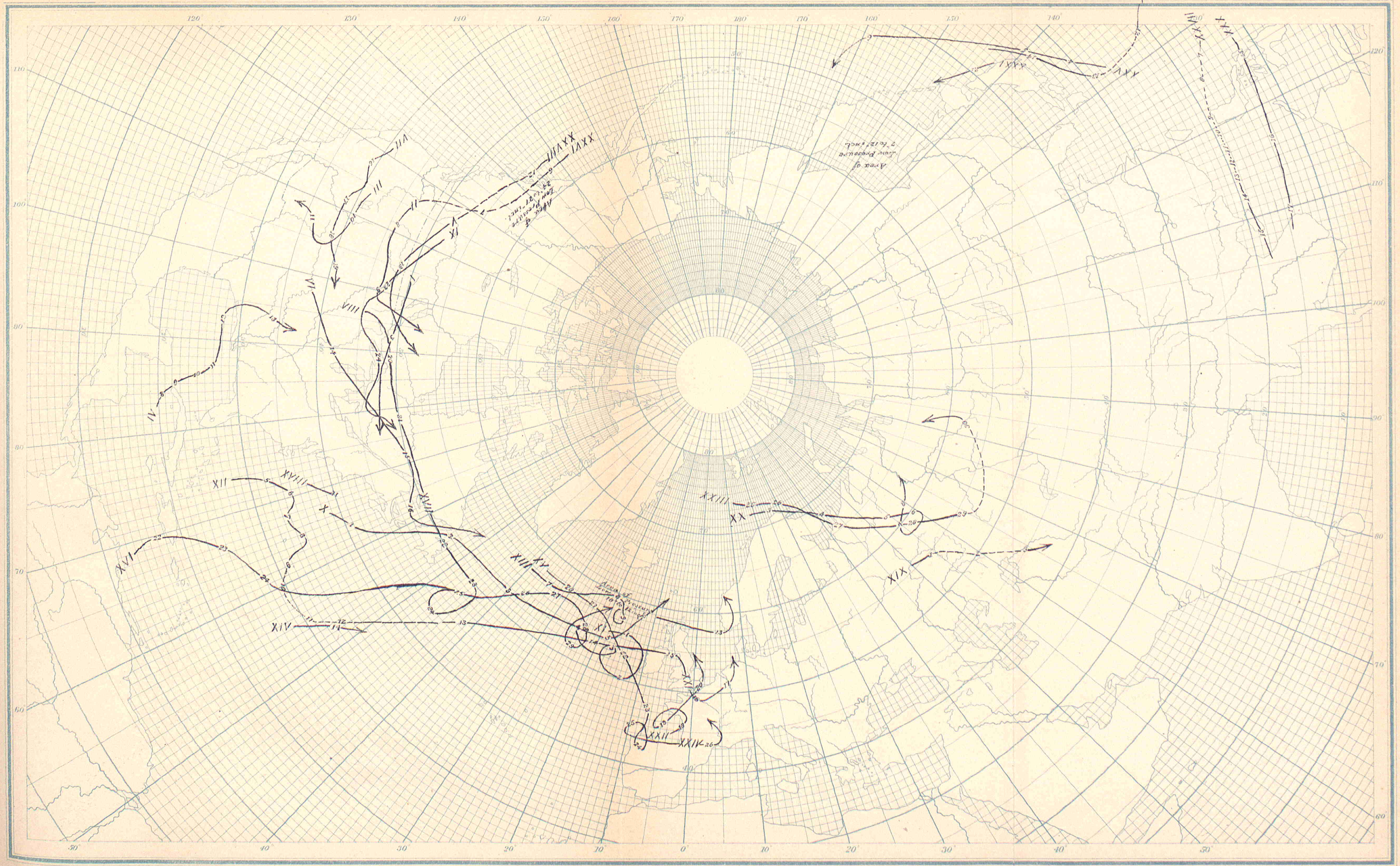
International Chart II. October, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

Form No. 106 R---1887.

International Chart III. October, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October, 1886—Continued.

Name of vessel.	Captain.
WILSON LINE.	
Br. s. s. Bassano	Capt. W. Rea.
Buffalo	J. H. Malet.
Galileo	R. Potter.
Marengo	Wm. Abbott.
Salermo	B. H. Rogers.
Sorrento	J. T. Rogers.
MISCELLANEOUS.	
Nor. s. s. Amicitia	P. A. Reimers.
Br. Angerton	S. M. Orr.
Athens	Ch. Off. E. Towns.
Auretta	Capt. G. W. Read, F. R. G. S.
Span. Austurian	J. B. de Arribalzaga.
Br. Bedford	Thos. Aitkenhead.
Belair	Geo Dunlop.
Am. City of Dallas	C W. Read.
Br. s. s. Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	J. Scholtz.
Elstow	T. Robertson.
Ital. Fiducia	F. Viguolo.
Br. Fitzroy	Henry Gibb.
Span. Hugo	A. de Mugica.
Am. Lorenzo D. Baker	W. F. Wiley.
Nor. Ludvig Holboeg	N. Houge.
Br. Madrid	M. Garson.
Matthew Bedlington	Thos Kirby.
Span. Navarro	S. de Aldecocea.
Br. Ocean Prince	W. J. Milburn.
Dtch. Oranje Nassau	J. A. J. Lacrooy.
Br. Paumbau	Ch. Offi. Geo. Scott
Peconic	Capt. G. Evans.
Port Phillip	Geo. Dulling.
Ger. Raiatia	J. Viereck.
Br. Rover	Jas. Mansfield.
Salisbury	W. Durham.
Saint Ronans	H. Campbell.
Sacrobosco	R. S. Thompson.
Span. Serra	F. de Lazarraga.
Br. Straits of Gibraltar	Ch. Offi. W. T. Tomlinson.
Strathleven	Capt. C. W. Pearson.
Sussex	J. P. O'Callaghan.
Swed. Victoria	Ch. Offi J. A. Windquest.
Br. Viola	Capt. L. Murray.
Yedmandale	B. W. Hick.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	Coye.
Br. Alene	Siders
Alvena	F. McKay.
Alvo	D. Williams.
Advance	J. T. Lord.
Angerton	S. M. Orr.
Athos	Low.
Bothnia	Dutton.
Am. Caracas	W. M. Hopkins.
Chalmette	J. B. Perry.
Br. City of Chester	S. Lewis.
Am. City of Puebla	Deakin.
City of Richmond	A. Redford.
Br. Comal	J. Bolger.
Craighill	W. H. Bennett.
Egyptain Monarch	W. Morgan.
Am. El Monte	J. W. Hawthorne.
El Paso	H. S. Quick.
Br. Ethiopia	J. Wilson.
Am. Hudson	H. R. Freeman.
Lone Star	R. M. Howe.
Br. Miranda	E. Bendon.
Am. Newport	W. G. Shackford.
Niagara	G. V. Bemis.
Br. Otranto	W. Rippeth.
Br. Portia	H. Dawson.
Am. Rio Grande	J. F. Lewis.
Am. Valencia	Woodrick.
Dtch. W. A. Scholten	G. J. Vis
Warwick	J. W. Janes.
Br. Westernland	Com. W. G. Randle.

Name of vessel.	Captain.
SAILING VESSELS.	
Br. bk. Abyssinian	Capt. John Hughes.
Am. bg. Abbie Clifford	D. W. Storer.
Br. bg. Achsah	A. M. Shaw.
It. bk. Agostino Rombo	V. Basso.
Nor. Artemis	E. E. Moe.
Ger. bk. Adolph von Bippen	T. Möller.
Br. bg. Adria	J. H. Welden.
Nor. bk. Alvega	C. Gallus.
It. Angelica Accame	Vincenzo Niggi.
Am. bgt. Boston Marine	H. V. Porter.
Br. sp. British Isles	G. Southcott.
Ger. bk. Bremerhafen	A. Wisse.
Am. schr. Benjamin Hale	John Hull.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
Am schr. Comet	W. H. Aldrich.
Ger. sp. Carl	— Hashagen.
Am. bk. Chas. R. Lewis	A. Montgomery.
Br. sp. Cabul	John Romo.
Am. bk. Crescent	W. P. Gibbs.
Br. sp. Cyromene	Ch. Off. Jas. Masson.
Am. bk. Don Justo	Capt. E. Orcutt.
schr. Edward R. Emerson	A. H. Child.
Br. bgt. Elcho	P. A. Oxelgren.
Eliza Barss	Henry H. Hollis.
Am. schr. Ella A. Warner	H. J. Greaves.
Am. schr. Ettie H. Lister	S. D. Mason.
sp. E. B. Sutton	C. O. Carter.
Ger. bk. Emilie	W. Siems.
Br. sp. Earl of Shaftsbury	W. Randall.
sp. F. B. Taylor	J. A. Tulley.
Am. schr. Florence Rogers	J S. F. McLeod.
bk. Fluorine	Wm. Manson.
Ger. sp. Friedlander	John Bellmer.
It. bk. Fratelli Laurin	Lodovico Laurin.
Ger. sp. Frederike	Th. Friedken.
Ger. sp. Georg	G. A. Scholtz.
Am. bk. General Fairchild	Ch. Offi. H. R. Coombs.
Nor. Grundieven	Capt. O. G. Ellingsen.
Am. Harriet S. Jackson	W. T Bacon.
Ger. sp. Hedwig	Th. Minssen.
Ger. sp. Hugo	John Kuhlken.
Dtch bk. Helena	T. T. Verbrecht.
Am. Harvard	Samuel Pray.
Am. sp. Henry Villard	F. B. Perkins.
Nor. bk. Haavund	C. Ullenaess.
Ger. sp. Ida	John Winters.
Br. bk. Iodine	Adam Smith.
Am. schr. Jennie A. Stubbs	Chas. M. Haskell.
bkt. Josephine	Chas. Brown.
schr. James Slater	James L. Tooker.
bk. Jane Adeline	G. W. Cates.
Swe. bk. John Fougt	O. Carlsson.
Ger. sp. J. W Gildermeister	A. Lehmann.
Am. bk. John H. Pearson	James T. Sparks.
James S. Stone	C. F. Barstow.
Am. schr. José Olaverri	Seth C. Avery.
Nor. sp. Komandor Svend Foyn	Johan Bryde.
Br. bk. Kryolith	W. C. Stephen.
Ger. bk. Kepler	G. Atken.
Br. bg. Kenilworth	P. Doig.
Ger. bk. Leocadia	John Stohff.
Am. bkt. Levanter	Geo. F. Gerry.
Am. bg. L. & W. Armstrong	A. Alexander.
Br. bg. Lilian	H. F. Schive.
Am. bkt. Lizzie Carter	C. J. Carter
Br. bk. Mary	Chas. Acocks.
Am. sp. Magellan	E. S. Manson.
Am. bg. Mary Fink	D. F. Darrah.
Nor. sp. Mathilda	T. J. Hansen.
Br. bk. Minnie G. Whitney	J. D. Foley.
Br. bg. Morancy	Ch. Offi. R. H. Cox.
Am. Mohican	Capt. B. F. Berry.
Ger. Möerve	C. P. Krutzfeld.
Nor. bk. Moland	T. Omundsen.
Am. bg. Manson	E. T. Page.
bkt. Nellie M. Slade	J. A. Gould.
schr. N. Hand	F. G. Phiffs.
Ger. sp. Otto	W. Langen.
bk. Pilian	G. Gerlach.
Am. schr. Pearl	Anderson.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Am. bkt. Pearl	Capt. John B. Zimmer.
Nor bk. Qvoss	Gunder Olsen.
Br. bkt. Rosebud	John Collie.
Ger. bk. Richard	A. von Seggern.
Am. bk Ralph M. Hayward	J. Baxter.
Br. sp. Sapphire	G. W. Murray.
Am. bk. Sarah	L. R. Hale.
Ger. bk. Shakspere	Carl Muller.
Br. sp. Stephen D Horton	J. Spicer.
Am. bg. Teneriffe	W. S. Richardson.
Br. bk. Tuck Sing	Geo. N. Ryder.
It. Teresa Accame	Gerolamo Boetto.
Nor. bk. Tros	S. Brager.
Ger. sp. Union	H Fokken.
bk. Western Chief	Fr. Sander.
Am. bg. Water Witch	Max Knaebel.
Am. schr. W. H. Fredson	A J. Biddle.
Br. sp. Winnifred	R. MacDonald.
Nor. bk. Ymer	J. E. Andersen.
Am. sp. Light-ship No. 37	Andrew Jackson.
UNITED STATES NAVAL.	
U. S. S. Adams	
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Essex	Theo. F. Jewell.
U. S. S. Galena	W. H. Reeder.
U. S. S. Hartford	I. H. Gillis.
U. S. S. Iroquois	J. C. Watson.
U. S. S. Jamestown	C. J. Nain.
U. S. S. Juniata	G. T. Davis.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	S. L. Breese.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	Geo. B. Livingston.
U. S S Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T Nelson.
U. S. S. Pensacola	Geo. Dewey
U. S. S. Pinta	
U. S. S. Portsmouth	C. V. Gridley.
U. S. S. Quinnebang	C. S. Sperry.
U. S. S. Ranger	F. A. Cook.
U. S. S. Saratoga	C. H. Davis.
U. S. S. Shenandoah	B. Wilson.
U. S. S. Swatara	E. T. Windom.
U S S Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Vandalia	H. L. Howison.
U. S. S. Yantic	F. M. Green.
BRITISH NAVAL.	
H. M. S. Alexandra	J. Fellowes.
H. M. S. Audacious	R. H. Harris.
H. M. S. Bacchante	A. U. Moore.
H. M. S. Champion	A. T. Powlett.
H. M. Dockyard, Bermuda	J. F. G Grant.
H. M. S. Dart	A. M. Fields.
H. M. S. Himalaya	J. G. Stokes.
H. M. S. Hyacinth	J. W. Brackenbury.
H. M. S. Icarus	Annesley.
H. M. S. Minotaur	Bruce.
H. M. S. Midge	H. J. Robilliard.
H. M. S. Nelson	A. Lake.
H. M. S Penguin	Haygarth.
H. M. S. Raleigh	A. K. Wilson, V. C.
H. M. S. Rambler	W. U. Moore.
H. M. S. Rifleman	C. Prater.
H. M. S. Satellite	A. H. Allington.
H. M. S. Tyne	W. E. Darwall.
H. M. S. Tourmaline	M. Byles.
H. M. S. Turquoise	R. Woodward, C. B.
H. M. S. Woodlark	E. W. Burt.
PORTUGUESE NAVAL.	
H. P. M. S. Duque de Terceira	
H. P. M. S. Yaire	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of October. 1886.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	[Todd, C. M. G.
Hobart Town, Tasmania	C. L. Wragge, C. M. G. and C.
Melbourne, Victoria	Com. J. Shortt, R. N.
	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	P. Johannes Tamas, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews
Bird Rocks	
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Pakhoi	C. Wanderleach.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Directors.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Girand, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delormie, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuce	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours	M. Letellier.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jüdt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	T. Enas.
Gifu	R. Ikuchi and S. Yaraki.
Hakodate	F. Kogima and Y. Ogama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Itsurbara	
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Kochi	K. Kusunose.
Miasaka	T. Ishitain & T Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	S. Takebayashi.
Nemuro	M. Itabashi.
Niigata	T. Sato.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R Kaneda.

Stations.	Observers.
JAPANESE—*Continued.*	
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	R. Tomitokoro.
Supporo	K. Kugly.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	C. Carmina.
Mexico	The Staff.
Zacatecas	J. A. Bonilla, M. E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia	
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sseliwerstow.
Astrakan	
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacmsipoyz.
Kieff	Observatory.
Korostishev	
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the Amoor	Schohberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Colonobr.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Troitskosavsk	
Viatka	
Warsaw	Astronomical Observatory.
Yeniscisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	T. E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Bogota	Joaquin Gomez Otero.
Kingston	Maxwell Hall.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de. Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF NOVEMBER, 1886.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
BRIGADIER GENERAL, CHIEF SIGNAL OFFICER OF THE ARMY.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
JANUARY, 1888

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Nova Scotian	R. H. Hughes.
Sardinian	W. H. Smith.
Scandinavian	John Park.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Prince	Samuel Nowell.
Lord Clive	P. Urquhart.
Lord Gough	E. M. Hughes.
ANCHOR LINE.	
Br. s. s. Acadia	C. W. Haynes.
Bolivia	J. J. Small.
British Crown	Archibald Smith.
British Queen	R. Wills.
Circassia	A. Campbell.
Devonia	Hugh Young.
Dorian	J. McKeague.
Ethiopia	John Wilson.
Trinacria	Geo. Mitchell.
ANGLO-AUSTRALIAN STEAMSHIP CO.	
Br. s. s. Port Phillip	Geo. Dulling.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Samson.
Andes	T. M. McKnight.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Clement	Thomas Burley.
Jerome	Benj. Crimp.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Wells City	T. L. Weiss.
CROMWELL LINE.	
Am. s. s. Hudson	H. R. Freeman.
Louisiana	E. V. Gager.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Etruria	T. Cook.
Samaria	T. Roberts.
Servia	H. McKay.
EDWARD CARR'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polynesia	A. Kuhn.
Taormina	H. M. Franck.
FABRE LINE.	
Fr. s. s. Neustria	P. Verrières.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Durham City	M. P. Lund.
GENERAL TRANS-ATLANTIC S. S. Co.	
Fr. s. s. La Bourgogne	Franguel.
La Bretagne	M. de Jousselin.
La Champagne	E. Traub.
La Gascogne	Santelli.
La Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
Warwick	Capt. W. Janes.
GUION LINE.	
Br. s. s. Arizona	S. Brooks.
Nevada	John Douglas.
Wisconsin	Edward Bentley.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bohemia	R. Kurlowa.
Gellert	W. Kühlewein.
Hungaria	H. Leithauser.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Slavonia	H. Schmidt.
Wieland	C. Hebich.
Westphalia	Dræscher.
HARRISON LINE.	
Br. s. s. Counsellor	Wm. Lang.

Name of vessel.	Captain.
INMAN LINE.	
Br. s. s. City of Berlin	Capt. Francis S. Land.
City of Chicago	Fred. Watkins.
LAMPORT & HOLT'S STEAMSHIP Co.	
Br. s. s. Biela	C. J. Watson.
Dalton	J. Russell.
Holbein	Thos. T. Farrell.
Olbers	Jas Clark.
Thales	Jas. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bavarian	R. Leask.
Bulgarian	E. Parry.
Istrian	T. H. Fox.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
Colorado	Jas. Daniels.
Rio Grande	J. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Pontiac	R. Blyth.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Montreal	F. Bouchette.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Harrison.
Lydian Monarch	T. C. Huggett.
MORGAN LINE.	
Am. s. s. Eureka	R. B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	Thos. Foote.
Denmark	R. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
Erin	J. Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Helvetia	G. Cochrane.
Holland	Wm. Tyson.
Italy	W. Pearce.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Indipendente	P. Pirandello.
Polcevera	Brofferio.
NEW YORK AND CUBA MAIL STEAMSHIP COMPANY.	
Am. s. s. Cienfuegos	F. M. Faircloth.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rittig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. Aller	F. Hamelmann.
America	H. Bodeker.
Eider	H. Helmers.
Elbe	H. Christoffers.
Ems	T. Jungst.
Fulda	R. Ringk.
Hermann	A. Kohlmann.
Main	H. Supmer.
Neckar	H. Baur.
Rhein	L. Jahns.
Saale	H. Reichter.
Trave	W. Willigerod.
Werra	Richard Bussins.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	J. W. Catherine.
City of Savannah	H. C. Daggett.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP Co.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.

Name of vessel.	Captain.
PACIFIC COAST STEAMSHIP Co.	
Am. s. s. City of Chester	Capt H. Wallace.
Orizaba	C. M. Goodall.
State of California	G. Debney.
PACIFIC MAIL STEAMSHIP Co.	
Am. s. s. City of New York	Robt. R. Searle.
City of Peking	W. C. Dearborn.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colon	Chas. C. Lima.
San Blas	T. Chapman.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke
Orinoco	J. S Garvin.
Trinidad	W. J. Fraser.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
RED CROSS LINE.	
Br. s. s. Capulet	W. H. Ellis.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon
Nederland	A. J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Switzerland	H. Buschmann.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Schiedam	A Potjer.
Zaandam	H. v. d. Zee.
ROYAL W. I. MAIL S. S. Co.	
Dtch. s. s. Oranje Nassau	J. A. LaCrooy.
ROYAL MAIL STEAMSHIP Co.	
Am. s. s. City of Dallas	C. W. Reed.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Brae.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Richmond Hill	A. Hyde.
Tower Hill	F. Archer, R.N.R.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Norseman	E. Maddox.
WATTS, WARD LINE.	
Br. s. s. Richmond	J. Garson.
WHITE CROSS LINE.	
Belg. s. s. De Reuter	J. J. Brarens.
Jan Breydel	H. Meyer.
Pieter de Connick	E. Smit.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parsell.
Britannic	H. Perry.
Germanic	C. W. Kennedy.
WILSON LINE.	
Br. s. s. Galileo	R. Potter.
Marengo	Wm. Abbott.
Salermo	B. H. Rogers.
Sorrento	J. F. Rogers, R.N.R.
MISCELLANEOUS.	
Br. s. s. Angerton	S. M. Orr.
Athens	Ch. Off. E. Towns.
Nor. Amicitia	Capt. P. M. Reimers.
Br. Auretta	G.W.Read, F.R.G.S.
Bedford	Thos. Aitkenhead.
Benalder	James Ross.
Cranbrook	John W. Harvey.
Edith Godden	John H. Bennett.
El Callao	J. Scholtz.
Elstow	T. Robertson.
Span. Emiliano	F. de Bengoa.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, NOVEMBER, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1886.																	Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.												
						Actual		Reduced.					Directions.								Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Australian.	° ′	° ′																							
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.89	759 2	30.02	762.5	64.6	18.1	51	1	.....	1	7	8	9	1	2	1	8373	13475	3	1.07	27.2
Hobart Towna	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.77	756.1	29.88	758.9	53.9	12.2	85	5	4	5	7	3	1	1	2	1	373	600	5	2.88	73.2
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.98	761.5	30.05	763.3	59.1	15.1	77	2	1	2	7	9	8	1	.....	.....	.....	.....	5	2.67	67.8
Austrian.																									
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.50	749.4	30.06	763.6	47.7	8.7	72	.....	1	1	6	1	.....	11	7	3	.....	.....	7	2.79	70.9
Oracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.22	742.1	30.01	762.2	45.3	7.4	75	.....	6	10	2	1	1	3	7	.....	.....	.....	8	0.41	10.5
Eperies	N. 48 58	E. 21 15	1.25 p.m.	853	260	29.13	739 9	30.02	762.5	41.0	5.0	80	3	.....	.....	.....	10	.....	.....	.....	17	.....	.....	6	0.90	22.9
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.78	730.9	30.05	763.2	45.1	7.3	76	1	4	3	11	2	5	.....	2	2	.....	.....	6	0.06	1.4
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.65	727.8	30.05	763.3	40.8	4.9	91	.....	.....	.....	9	3	.....	.....	3	6	9	.....	8	1.51	38.4
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	29.00	736.6	30.01	762.2	44.6	7.0	74	4	1	8	4	7	2	3	1	.....	.....	.....	6	1.52	38.5
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.92	760.0	30.03	762 8	55.8	13.2	70	3	2	5	.....	3	6	4	3	4	.....	.....	5	3.24	82.4
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.63	752.6	30.12	765.0	49.3	9.6	62	7	1	7	1	3	8	3	.....	.....	.....	.....	5	1.05	26.6
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	315	96	29.69*b*	754.1*b*	30.01*b*	762.2*b*	49.1	9.5	76	20	4	1	2	7	7	.....	4	3	.....	.....	5	1.09	27.7
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.97	761.1	30.06	763.6	54.3	12.4	67	.....	1	4	5	2	4	2	6	6	.....	.....	6	3.79	96.2
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.31	744.5	30.19	766.8	44.4	6.9	76	2	5	6	.....	2	9	.....	.....	6	.....	.....	7	1.43	36.4
Brazilian.																									
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.78	756.4	29.95	760.7	74.8	23.8	72	7	8	1	1	.....	8	2	2	1	.....	.....	2	2.86	72.6
British.																									
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.67	753.6	29.80	756.9	45.5	7.5	77	1	4	11	6	6	2	.....	.....	.....	9184	14780	6	2.22	56.4
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	29.64	752.8	29.88	758.9	47.2	8.4	77	1	2	9	3	3	9	.....	3	.....	.....	.....	7	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.45	748.0	29.86	758.4	46.4	8.0	79	7	5	2	8	3	3	.....	2	.....	.....	.....	8	1.79	45.5
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.90	759.4	29.86	758.4	81.8	27.7	79	1	.....	.....	.....	.....	4	7	18	.....	.....	.....	8	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.78	756.4	29.99	761.7	48.8	9.3	80	1	2	.....	.....	.....	.....	1	5	21	.....	.....	5	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.76	755.9	29.97	761 2	49.2	9.6	83	6	6	6	6	4	.....	.....	2	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	29 62	752 3	29.91	759.7	74.2	23.4	50	8	1	.....	1	5	2	2	10	1	.....	.....	6	.....	.....
Galway	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.83	757.7	29.85	758.2	48.2	9.0	90	3	4	3	14	2	1	2	1	.....	.....	.....	6	4.37	111.0
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.02	762.5	30.13	765.3	60.4	15.8	84	.....	7	9	2	.....	3	6	3	.....	.....	.....	8	.....	.....
Greenwich	N. 51 29	0 0c	12 m.	159	48	29.73	755 1	29.92	760 0	47.4	8.6	82	2	4	5	6	8	.....	2	3	.....	.....	.....	5	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.07	753.6	29.98	761.5	50.6	10.3	86	.....	5	9	4	1	3	3	5	.....	.....	.....	8	4.38	111.2
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.88	758.9	29.93	760.2	46.7	8.2	80	2	5	6	6	6	.....	3	2	.....	.....	.....	7	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.62	752.3	29.90	759.4	46.9	8.3	85	3	1	4	13	3	2	.....	1	3	.....	.....	8	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.92	760.0	29.98	761.5	64.6	18.1	76	.....	11	1	5	.....	4	2	7	.....	.....	.....	6	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.09	764.3	30.08	764.0	75.2	24.0	73	4	3	.....	.....	.....	2	5	13	3	.....	.....	5	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.67	753.6	29.92	760.0	46.4	8.0	84	1	4	5	8	6	.....	2	1	3	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.85	758.2	29.94	760.5	50.1	10.1	86	1	6	6	5	3	.....	3	1	5	.....	.....	5	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.61	752 1	29.73	755.1	46.4	8.0	82	2*a*	3	8	4	8	2	1	1	.....	.....	.....	8	.....	.....
Scutari Cemet'y	N 41 00	E. 29 03	1.56 p.m.	60	18	30.01	762.2	30.06	763.5	56.9	13.8	60	4	.....	.....	10	3	1	.....	7	5	.....	.....	8	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.89	759.2	45.3	7.4	76	2	2	7	10	3	1	3	2	.....	.....	.....	8	.....	.....
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	.....	.....	29.96	761.0	49.4	9.7	83	4	2	7	4	5	5	.....	3	.....	.....	.....	8	3.97	100.8
Sub-series.																									
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.61	752.1	29.98	761.5	64.2	17.9	69	1	3	1	7	4	4	5	5	.....	.....	.....	5	3.50	88.9
Canadian.																									
Bathurst	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.88	759.0	29.93	760.2	33.5	0.8	83	1	6	6	4	3	2	3	.....	5	.....	.....	7	1.89	48.0
Bird Rocks	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.74	755.4	29.87	758.7	36.6	2.6	85	4	7	5	4	3	4	.....	3	.....	.....	.....	7	3.16	80.3
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.79	756.7	29.86	758.4	30.8	— 0.7	94	.....	3	11	4	3	3	4	2	.....	4141	6664	7	4.57	116.1
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.69	754.1	29.90	759.4	31.3	— 0.4	85	3	.....	12	4	5	.....	.....	2	4	.....	.....	8	4.88	124.0
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.76	755.9	29.81	757.2	29.4	— 1.4	.....	.....	1	11	1	1	.....	4	.....	5	.....	.....	6	3.68	93.6
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.81	757.2	29.85	758.2	29.2	— 1.6	86	.....	5	5	6	5	2	3	3	1	17347	27917	9	3.69	93.7
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.14	740 1	30.06	763.5	12.1	—11.1	87	11	2	6	1	6	2	1	1	.....	8653	13925	6	0.57	14.5
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	164	50	29.76	755.9	29.95	760.7	32.9	0.5	79	7	9	2	3	2	.....	2	2	3	6184	9952	7	6.07	154.2
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	29.89	759.2	29.95	760.7	39.4	4.1	81	.....	2	.....	9	7	4	3	2	1	22067	35513	5	5.85	148.6
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.84	732.5	29.98	761.5	31.5	— 0.3	97	1	3	7	2	1	.....	.....	.....	15	3903	6281	7	3.97	100.9
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.84	757.9	29.98	761.5	37.8	3.2	85	2	1	14	3	2	4	2	1	1	.....	.....	6	5.27	133.9
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.64	752.9	30.04	763.0	34.9	1.6	75	4	.....	12	9	4	1	.....	.....	.....	.....	.....	6	2.70	68.6
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.59	751.6	29.93	760.2	31.8	— 0.1	88	3	2	:0	5	4	2	.....	4	.....	7743	12461	8	5.11	129.8
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.87	758.6	29.91	759.7	39.3	— 4.1	85	1*a*	2	6	9	7	.....	1	2	1	.....	.....	6	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.00	738.1	30.00	762.0	31.1	— 0.5	89	1	.....	8	1	2	.....	.....	.....	18	2429	3909	7	2.82	71.6
Medicine Hat *a*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.72	704.1	30.09	764.3	23.6	— 4.7	78	2	2	9	2	.....	.....	.....	.....	14	3830	6164	4	0.51	13.0
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.11	714.0	30.07	763.8	8.7	—12.9	91	2	4	5	2	.....	1	.....	2	14	5553	8936	3	0.41	10.4
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.70	754 4	29.91	759.7	30.7	— 0.7	87	.....	1	11	8	5	.....	2	3	.....	4995	8038	7	5.78	146.8
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.66	753.4	29.92	760.0	28.8	— 1.8	88	4	6	5	8	2	.....	2	3	.....	10773	17337	8	1.82	46.2
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	625	191	29.19	741.4	29.92	760 0	29.4	— 1.4	84	5	.....	8	3	4	6	3	1	.....	.....	.....	7	4.12	104.6
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.15	740.4	29.99	761.7	29.1	— 1.6	74	2	9	2	1	8	.....	.....	.....	8	.....	.....	7	1.73	43.9
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.24	742.7	29.93	760.2	18.3	— 7.6	85	3	2	7	1	1	.....	.....	2	14	2808	4519	7	1.23	31.2
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.30	744.2	29.99	761.7	34.8	1.6	92	1	3	11	6	1	1	4	2	6680	10750	4	4.84	122.9
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.36	745.7	30.00	762.0	34.0	1.1	83	2	2	15	4	.....	1	2	3	1	.....	.....	7	3.74	95.0
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27.08	703 1	30.11	764.8	9.8	—12.3	91*d*	1	4	6	8	1	.....	.....	2	8	.....	.....	4	0.65	16.5
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.52	749.8	29.85	758.2	29.1	— 1.6	84	.....	.....	.....	12	5	1	.....	2	4	.....	.....	6	3.93	99.8
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.42	747.3	29.91	759.7	26.0	— 3.3	90	.....	.....	.....	11	.....	.....	.....	10	.....	9	.....	8	2.33	59.2
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.82	757 4	29.91	759.7	36.4	2.4	79	.....	9	6	1	2	2	1	6	3	.....	.....	6	3.71	94.2
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.81	757.1	29.94	760.5	35.9	2.2	89	1	3	3	7	3	.....	4	5	4	.....	.....	6	5.42	137.7
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	29.91	759 7	43.0	6.1	.....	1	11	2	4	.....	8	2	1	1	.....	.....	.....	2.01	51.1
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.12	*39 6	29.83	757.7	31.3	— 0.4	92	.....	.5	5	4	2	.....	2	5	7	10758	17313	8	3.87	98.3
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	30	9	29.72	754.9	29.78	756.4	33.0	0.6	88	1	2	7	1	3	7	7	2	.....	.....	.....	6	1.22	31.0
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.04	727.4	29.97	761.2	29.9	— 1.2	89	3	2	9	7	.....	3	1	1	4	7410	11925	7	4.68	118.9
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27 43	690.7	30.08	764.0	22.7	5.2	58	2	4	6	7	7	.....	.....	2	2	.....	.....	3	0.80	20.3
Sydney	N. 46 08	. 60 10	7.59 a.m.	37	11	29.90	759.4	29.93	760.2	37 7	3.2	73	.....	1	6	10	4	3	1	1	4	7226	11629	6	4.44	112.8
Toronto	N. 43 39	W 79 23	6.42 a.m.	350	107	29.54	750.3	29.94	760.5	33.0	0.6	72	5	4	9	7	2	.....	2	1	.....	.....	.....	6	2.65	67.3
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	28.89	733.8	30.00	762 0	32.0	0.0	85	.....	4	9	10	.....	1	3	2	1	.....	.....	7	2.13	54.1
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.87	758.7	29.94	760.5	41.0	5.0	79	.....	10	2	3	2	7	1	4	1	.....	.....	4	5.02	127.5
Sub-series.																									
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.94	760.5	29.84	757.9	37.0	2.8	89	1	6	4	.....	9	6	.....	4	.....	.....	.....	4	2.82	71.6
Chinese.																									
Foochow	N. 26 08	E. 119 38	7.59 p.m.	31	10	30.25	768.3	30.24	768.1	62.4	16.9	74	.....	.....	.....	1	.....	1	3	25	.....	.....	.....	4	0.07	1.8
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	30.02	762.5	30.08	764.0	69.1	20 6	64	4	1	.....	.....	.....	.....	13	11	1	.....	.....	3	0.06	1.5
Sub-Series.																									
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.30	769.7	30.32	770.2	50.0	10.0	81	12	5	3	1	.....	2	1	5	1	.....	.....	2	0.34	8.5
South Cape	N. 21 55	E. 120 51	8.04 p m.	121	37	29.95	760.7	30.01	702.2	72.5	22.5	54	15	.....	.....	1	.....	.....	.....	14	.....	.....	.....	6	0.47	11.9
Danish.																									
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.83	757.7	29.92	759.9	44.6	7.0	85	1	5	3	5	9	2	3	1	1	.....	.....	7	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.81	757.1	29.86	758.4	45.3	7.4	90	.....	5	2	5	7	7	.....	2	2	.....	.....	8	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.71	754.5	29.82	757.4	45.1	7.3	88	.....	4	3	3	3	9	2	3	3	.....	.....	7	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
DANISH *Sub-Series*	° ′	° ′																										
Godthaab	N. 64 11	W. 51 46	8.33 a.m.	36	11	29.59	751.5	29.68	753.9	23.2	— 4.9	87	5	1	1	2	1	9	2	5	4	.....	.....	7	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.36 a.m.	43	13	29.57*e*	751.0*e*	29.67*e*	753.6*e*	16.3	— 8.7	.....	1	.....	.....	1	3	4	14	1	6	.....	.....	5	.....	.....
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	30	11	29.38	746.2	29.47	748.5	35.1	1.7	86	3	1	3	2	5	6	1	7	2	.....	.....	9	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.52	749.7	29.58	751.3	43.2	6.2	86	4	2	4	9	5	1	.....	1	4	.....	.....	8	.....	.....
Upernavik	N. 72 47	W. 56 00	8.16 a.m.	39	12	29.63	752.6	29.74	755.4	10.2	—12.1	93r	1	2	1	5	3	2	5	4	7	.....	.....	8	.....	.....
FRENCH.																												
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.47	748.6	30.13	765 4	47.1	8.4	92	3	5	5	1	7	7	2	.....	.....	.....	.....	5	0.61	15.5
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.53	750.0	30.10	764.4	48.2	9.0	82	3	2	2	4	10	4	3	2	.....	.....	.....	6	1.69	42.9
Arras	N 50 18	E. 2 46	0.11 p.m	223	68	29.78	756.3	29.98	761.6	47.7	8.7	84	2	5	2	16	1	2	1	1	.....	.....	.....	6	2.13	54.1
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.96	761.0	30.04	763.0	54.7	12.6	71	13	6	.....	2	3	2	1	3	.....	.....	.....	3	3.85	97.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.46	748.2	30.04	763.0	47.1	8.4	84	.....	.....	1	7	10	3	2	7	.....	.....	.....	9	2.12	53.9
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.63	752.7	30.01	762.2	48.7	9.3	90	4	11	1	2	.....	1	.....	11	.....	.....	.....	4	1.92	48.9
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.14	740.2	30.04	763.0	48.4	9.1	80	6	.....	1	.....	16	3	.....	4	.....	.....	.....	5	2.65	67.3
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.78	756.5	30.05	763.2	49.5	9.7	81	3	2	1	4	4	9	4	3	.....	.....	.....	8	2.84	72.1
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.53	750.0	29.99	761.7	42.3	5.7	94	5	.....	3	8	6	1	3	4	.....	.....	.....	7	2.16	54.9
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.73	755.2	29.99	761.7	52.3	11.3	88	1	4	4	8	1	.....	1	4	7	.....	.....	8	2.99	76.0
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.95	760.6	30.04	763.1	50.4	10.2	82	1	1	3	9	9	2	1	4	.....	.....	.....	6	1.80	45.8
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.71	754.7	30.04	763.0	47.3	8.5	88	*a*	1	1	7	13	1	1	5	.....	.....	.....	7	2.28	58.0
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.48	748 7	30.01	762 2	46.9	8.3	75	4	8	4	6	5	3	.....	.....	.....	.....	.....	9	2.49	63.3
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.67	728.2	30.05	763.2	47.1	8.4	73	7	6	4	4	4	2	2	1	.....	.....	.....	8	1.38	35.0
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.20	741.7	30.06	763 6	47.8	8.8	79	1	3	1	5	4	4	.....	6	6	.....	.....	6	5.54	140.8
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	29.13	739.8	30.05	763.3	46.4	8.0	78	2	1	9	7	2	2	4	3	.....	.....	.....	7	3.14	79.7
Gap	N. 44 33	E. 6 05	0.24 p.m.	2425	739	27.49	698.3	30.05	763.2	46.4	8.0	70	.....	.....	.....	.....	1	.....	.....	1	7	21	.....	.....	11.74	298.3
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.89	733.8	30.02	762.6	53.4	11.9	68	8	5	2	1	3	2	1	8	.....	.....	.....	5	9.92	252.1
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.35	745.4	30.13	765 4	47.1	8.4	77	1	4	2	.....	7	4	10	2	.....	.....	.....	5	5.44	138.2
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.37	720.6	30.00	762.1	44.6	7.0	68	1	.....	5	9	1	2	5	7	.....	.....	.....	7	5.54	140.8
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.50	749.4	30.08	763.9	53.2	11.8	72	3	3	7	5	1	.....	2	9	.....	.....	.....	4	3.36	85.4
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.92	760.0	30.04	762.9	52.3	11.3	74	1	3	6	5	4	2	1	7	1	.....	.....	7	3.56	90.5
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.98	736.1	30.06	763.4	47.3	8.5	74	4	6	2	1	5	6	4	2	.....	.....	.....	5	5.96	151.3
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.70	754.4	30.03	762.8	48.2	9.0	84	2	2	3	9	1	1	5	2	6	.....	.....	6	1.91	48.5
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.72	755.0	29.99	761.8	57.0	13.9	70	2	4	10	2	3	1	6	2	.....	.....	.....	.....	8.04	204.3
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5204	1586	24.82	630.5	29.65	753.1	42.8	6.0	60	4	5	6	6	.....	3	4	2	.....	.....	.....	4	1.72	43.8
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.87	758.7	29.98	761.5	57.9	14.4	63	7	7	4	2	.....	4	.....	6	.....	.....	.....	4	1.53	38.8
Mont Ventoux	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.76	603.4	.....	.....	31.6	— 0.2	62	*b*4	7	.....	4	10	1	1	1	.....	.....	.....	*b*2	36.76	933.1
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.22	742.3	30.03	762.8	45.1	7.3	81	.....	.....	2	5	10	3	2	8	.....	.....	.....	5	2.42	61.6
Nantes	N. 47 13	W. 1 33	11.54 a.m.	135	41	29.89	759.3	30.04	763.0	51.6	10.9	77	1	2	6	2	7	3	3	6	.....	.....	.....	7	3.91	99.2
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.89	759.3	29.94	760.5	64.2	17.9	79	.....	.....	.....	.....	.....	.....	.....	3	.....	27	.....	2	.....	.....
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.92	759 9	30.03	762.7	56.1	13.4	59	5	12	.....	2	2	3	1	3	2	.....	.....	5	0.78	19.7
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	21.13	536.6	.....	.....	27.7	— 2.4	68	.....	3	4	5	.....	1	1	5	11	.....	.....	2	1.96	49.9
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	29.00	736.5	30.03	762.8	49.8	9.9	79	7	.....	4	.....	11	.....	.....	3	5	.....	.....	5	8.94	227.0
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	25.07	636.8	.....	.....	32.9	0.5	90	1	1	6	11	2	.....	2	7	.....	.....	.....	7	3.94	100.2
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	30.00	762.1	30.04	762.9	51.8	11.0	80	4	2	1	5	.....	.....	11	7	.....	.....	.....	7	7.38	187.4
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.75	755.6	30.03	762.8	50.7	10.4	82	2	.....	8	5	5	1	6	3	.....	.....	.....	7	1.23	31.2
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2051	625	27.87	707.8	30.04	762.9	46.0	7.8	80	6	7	4	3	.....	9	1	.....	.....	.....	.....	4	1.92	48.9
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.94	760.5	30.00	762.1	49.5	9.7	78	1	3	3	11	3	5	1	3	.....	.....	.....	7	1.76	44.6
Saint Brieuce	N. 48 37	E. 5 08	0.20 p.m.	346	106	29.63	752.6	30.01	762.3	49.1	9.5	93	.....	1	9	7	9	.....	1	3	.....	.....	.....	9	3.12	79.3
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.84	758.0	30.02	762 6	48.2	9.0	80	5	2	7	6	6	2	1	1	.....	.....	.....	8	2.03	51.6
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.37	746.0	30.10	764.5	48.9	9.4	86	3	8	4	3	1	7	1	3	.....	.....	.....	8	1.00	25.5
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.84	757.8	30.02	762.6	50.7	10.4	78	.....	3	5	7	3	1	2	7	2	.....	.....	7	2.24	56.9
Sub-Series.																												
St. Martin du Hinx	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.93	760 2	30.08	764.0	52.3	11.3	75	3	.....	10	4	6	.....	6	1	.....	.....	.....	6	18.43	l214.0
GERMAN.																												
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.57	725.6	30.07	763.7	43.2	6.2	78	.....	2	7	9	2	2	.....	5	3	.....	.....	8	2.06	52.2
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	29.12	739.7	29.99	761.7	44.1	6.7	79	1	4	3	5	5	7	2	1	2	.....	.....	8	1.70	43.1
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.80	756 9	29.96	761.0	46.2	7.9	77	.....	3	7	4	9	2	2	2	1	.....	.....	8	1.13	28.8
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.46	748.3	30.03	762.7	44.8	7.1	79	2	4	8	2	6	5	3	.....	.....	.....	.....	8	0.80	20.3
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.58	751.3	30.05	763.2	46.9	8.3	79	1	.....	.....	17	2	2	.....	5	3	.....	.....	8	4.57	116.1
Cassel	N. 51 19	E 9 28	0.38 p.m.	669	204	29.26	743.3	30.00	762.0	44.6	7.0	83	5	3	2	9	8	1	.....	.....	2	.....	.....	8	1.67	42.5
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.64	752.8	30.08	763 9	45.3	7.4	78	3	1	4	9	4	.....	3	2	.....	.....	.....	8	1.51	38.3
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1339	408	28.61	726.7	30.06	763.6	44.8	7.1	80	4	1	3	14	2	1	.....	5	.....	.....	.....	8	1.51	38.3
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.83	757.7	29.95	760.8	43.9	6.6	69	2	2	4	12	5	2	2	1	.....	.....	.....	7	1.36	34.6
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.88	758.9	29.93	760.1	45.3	7.4	87	3	3	3	6	11	1	2	1	.....	.....	.....	8	2.02	51.3
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.56	750.7	30.02	762.6	45.0	7.2	97	2	3	3	8	10	3	1	.....	.....	.....	.....	9	2.35	59.6
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.90	759.4	29.99	761.7	42.8	6.0	86	6	2	4	3	4	9	1	1	.....	.....	.....	8	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	28.19	716.0	30.07	763.7	42.4	5.8	81	1	9	.....	1	.....	1	4	4	10	.....	.....	7	1.78	45.2
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.91	759.6	29.98	761.4	43.7	6.5	84	3	3	7	3	10	2	2	.....	.....	.....	.....	7	1.08	27.4
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.49	749 0	30.03	762.8	46.6	8.1	81	4	.....	11	6	6	1	1	.....	1	.....	.....	8	2.56	64.9
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	29.12	739.6	30.04	763.1	46.4	8.0	76	3	1	3	10	2	.....	.....	10	1	.....	.....	8	3.23	82.1
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.89	759.3	29.95	760.7	44.4	6.9	87	5	2	2	4	6	8	.....	3	.....	.....	.....	7	0.63	16.0
GREEK.																												
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.72	754.9	30.10	764.5	62.6	17.0	56	1	2	1	1	6	12	1	6	.....	.....	.....	5	1.41	35.7
INDIAN.																												
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.90	759.5	29.90	759.5	83.0	28.3	49	.....	.....	15	12	.....	.....	2	1	.....	.....	.....	2	0.25	6.4
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.46	748.2	29.87	758.7	87.6	30.9	25	6	2	2	3	5	5	3	3	1	.....	.....	2	.....	.....
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.87	758.6	29.84	758.0	81.9	27.7	73	6	20	3	.....	.....	.....	.....	.....	1	.....	.....	2	0.61	15.5
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.05	712.5	29.82	757.5	82.2	27.9	42	2	.....	1	1	.....	2	9	15	.....	.....	.....	3	2.18	55.4
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2524	769	27.35	694.6	29.77	756.1	78.1	25.6	49	3	.....	1	1	3	1	6	15	.....	.....	.....	3	0.71	18.0
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.26	743.1	29.95	760.7	70.5	21.4	57	.....	.....	.....	.....	.....	.....	.....	.....	30	.....	.....	1	0.06	1.5
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.05	737.8	29.92	760.0	71.8	22.1	47	.....	1	5	.....	.....	.....	2	.....	22	.....	.....	1	0.06	1.5
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.40	746.6	29.92	760.0	76.5	24.7	46	.....	8	3	2	1	.....	.....	.....	16	.....	.....	0	.....	.....
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.87	733.4	29.86	758 3	80.0	26.7	46	7	.....	.....	.....	.....	1	3	15	4	.....	.....	3	0.03	0.8
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.59	726.2	29.90	759.4	76.4	24.7	47	7	.....	.....	.....	.....	.....	.....	7	16	.....	.....	2	.....	.....
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.60	751.7	29.93	760.2	74.6	23.7	49	7	3	4	2	1	.2	1	3	7	.....	.....	0	.....	.....
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.64	752.9	29.91	759.7	74.4	23.6	61	.....	2	1	.....	1	.....	2	.....	24	.....	.....	2	0.01	0.2
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.76	756.0	29.90	759.5	75.0	23.9	60	2	6	2	.....	1	.....	2	3	14	.....	.....	1	0.18	4.6
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.93	709.5	29.92	760.0	69.3	20.7	56	13	9	.....	.....	1	2	1	3	1	.....	.....	3	0.84	21.3
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.87	758.6	29.89	759.2	80.9	27.2	61	2	.....	1	5	.....	1	8	13	.....	.....	.....	4	1.58	40.1
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.92	759.9	29.88	759.0	75.1	23.9	74	11	3	1	.....	.....	2	3	4	6	.....	.....	3	.....	.....
Dhubri	N. 26 07	E. 89 50	5.59 p.m	115	35	29.84	757.8	29.91	759.7	73.9	23.3	76	.....	.....	.....	.....	1	.....	.....	7	7	15	.....	0	.....	.....
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.84	757.8	29.87	758.7	76.2	24.6	79	1	7	5	1	1	.....	1	.....	14	.....	.....	2	0.47	11.9
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	29.64	752.9	29.94	760.4	70.1	21.2	84	.....	.....	.....	.....	.....	.....	2	10	18	.....	.....	2	0.11	2.8
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.52	724.4	29.92	759 9	78.6	25.9	39	6	10	2	.....	1	.....	1	3	7	.....	.....	1	0.02	0.5
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1475	449	28.40	721.4	29.81	757.1	82.5	28.1	48	3	1	.....	.....	.....	2	11	12	1	.....	.....	4	0.22	5.6
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.61	752.2	29.82	757.4	82.3	27.9	69	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	4.10	104.1
ITALIAN.																												
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.56	750.9	29.98	761.4	52.5	11.4	70	2	3	1	.....	2	7	1	1	13	.....	.....	6	6.10	154.9
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.52	749.8	30.05	763.2	49.3	9.6	80	.....	.....	7	5.	3	9	4	2	.....	.....	.....	7	6.15	156.2
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.93	760.1	30.04	762.9	50.4	10.2	77	5	5	4	3	4	3	1	2	3	.....	.....	6	2.98	75.6
Moncaliera	N. 45 00	E. 7 41	1.00 p.m.	846	258	29.12	739.7	30.04	763.1	46.8	8.2	81	.....	1	1	7	12	2	2	1	5	.....	.....	6	3.62	91.9
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.80	757.0	30.00	761.9	56.7	13.7	65	8	7	2	8	3	1	.....	1	.....	.....	.....	5	10.37	263.6
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.98	761.6	30.03	762.8	54.7	12.6	69	5	3	3	3	1	3	.....	12	.....	.....	.....	7	2.07	52.5
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.76	756.0	30.02	762.5	54.9	12.7	68	5	2	5	7	1	4	4	2	.....	.....	.....	6	3.94	100.1
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.92	759.9	30.00	762.1	57.7	14.3	65	1	15	2	1	3	6	2	.....	.....	.....	.....	4	4.88	123.9
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.85	758.1	30.01	762.2	60.4	15.8	58	6	4	1	1	7	7	.....	1	3	.....	.....	5	2.14	54.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0-10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.78	756.5	30.02	762.6	61.3	16.3	62	6	6	.....	3	5	5	1	4	.....	.....	.....	6	2.61	66.2
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.18	741.2	30.04	763.1	57.7	14.3	64	3	.....	1	4	4	4	8	6	.....	.....	.....	5	3.89	98.8
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.78	756.3	30.02	762.5	65.3	18 5	64	4	5	4	8	.....	2	.....	3	4	.....	.....	.....	4.25	108.0
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	30.03	762.7	30.04	763.0	65.1	18.4	62	5	3	6	3	2	4	2	5	.....	.....	.....	7	3.05	77.5
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	22.08	560 9	.....	.....	25.3	— 3.7	82	.....	... ..	10	5	2	3	3	7	.....	.....	.....	5	3.90	99.1
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	22 09	561.2	.....	.....	29.1	— 1.6	51	5	5	4	7	1	4	1	3	.....	.....	.....	5	.....	.....
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	33	10	30.09	764.4	30.13	765.3	43.0	6.1	92	9	5	2	.....	1	1	9	1	2	5870	9435	8	8.50	216.0
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	30.10	764.5	30.12	765.2	41.0	5.0	79	1	3	4	4	7	.....	2	1	8	3564	5734	8	7.27	184.8
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	.....	.....	.....	.....	50.7	10.4	82	1	3	5	9	1	.....	2	6	3	7693	12379	8	7.62	194.0
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.08	764.0	30.11	764 7	50.6	10.4	86	8	1	5	.....	.....	.....	2	7	7	1933	3112	6	6.10	155.0
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	30.11	764.8	30.11	764.8	39.6	4.3	77	13	3	8	.....	2	.....	3	1	.....	8079	13001	6	1.71	43.5
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.99	761.7	30.06	763.5	52.1	11.2	80	1	4	14	.....	.....	.....	.....	2	3	.....	.....	5	4.49	114.0
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.17	766.3	30.16	766.0	50.8	10.5	71	24	2	.....	1	.....	.....	1	1	1	4439	7142	6	6.14	156.0
Itsurhara	N. 34 12	E.129 16	8.34 p.m.	16	5	30.19	766.8	30.18	766.5	51.6	10.9	78	13	5	2	.....	3	.....	1	3	3	4157	6690	5	4.34	110.2
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	30.05	763.4	30.14	765.5	49.0	9.4	86	1	2	.....	2	4	7	10	....	4	3569	5743	9	11.07	281.1
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.17	766.4	30.15	765.8	54.7	12.6	79	11	5	1	.....	.....	.....	3	2	8	3256	5240	4	6.43	163.2
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.97	761.3	30.12	765.2	48.4	9.1	89	15	4	2	1	.....	.....	3	4	1	1775a	2856a	6	8.01	203.1
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.15	765.8	30.14	765 6	54.3	12.4	86	11	.....	9	.....	2	.....	3	.....	5	4422	7117	4	7.39	187.6
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	30.01	762.3	30.11	764.8	42.9	6.1	84	2	.....	15	5	1	.....	3	.....	4	2350	3784	6	5.74	145.6
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	29.99	761.7	30.16	766.2	52 9	11.6	78	11	1	.....	.....	1	.....	1	12	4	4053	6524	4	6.39	162.4
Nemuro	N. 43 20	E.145 35	9.42 p.m.	89	27	29.97	761.2	30.06	763.5	39.0	3.8	73	5	2	12	.....	4	.....	7	.....	.....	7352	11787	5	2.06	52.3
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	30.11	764.7	30.12	765.1	48.8	9.4	82	2	1	4	2	7	3	1	2	8	4551	7321	7	9.83	249.8
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	30.10	764.7	30.10	764.6	45.0	7.2	88	12	6	6	.....	.....	.....	.....	.....	6	6895	11096	7	3.47	88.0
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	30.05	763.3	30.06	763.6	52.3	11.3	79	1	3	3	.....	.....	.....	13	10	.....	.....	.....	6	4.69	119.1
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.10	764.5	30.12	765.1	51.2	10.6	87	6	.....	7	.....	.....	1	1	3	12	4714	7587	5	7.59	192.5
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.17	766.3	30.15	765.9	52.1	11.2	77	3	.....	8	2	1	.....	3	7	6	5600	9012	8	9.82	249.5
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	164	50	30.03	762.8	30.19	766.7	53.0	11.7	74	1	5	2	1	.....	1	4	4	12	.....	.....	5	5.71	145.1
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	30.02	762.6	30.07	763.8	36.6	2.0	80	3	5	13	.....	1	1	2	.....	5	10296	16566	7	1.54	39.1
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	30.05	763.3	30.11	764.9	34.8	1.6	83	.....	1	3	1	6	1	.....	.....	18	3920	6307	6	2.63	66.9
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	30.04	763.0	30.09	764.3	48.3	9.1	86	15	5	2	.....	1	2	4	1	.....	5126	8249	5	7.56	192.1
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.09	764.3	30.11	764.9	52.4	11.4	78	5	4	.....	.....	.....	.....	3	9	9	2042	3286	6	10.73	273.0
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.89	759.2	30.02	762.5	76.5	24.7	61	.....	1	.....	.....	.....	2	19	8	.....	463	745	6	1.19	30.2
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.77	603.6	29.90	759.4	51.2	10.7	73	5	3	1	6	.....	3	2	10	.....	.....	.....	4	0.00	00.0
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.37	618.9	30.15	765.8	46.7	8.2	83	10	17	.....	2	1	.. ..	.....	.....	.....	.....	.....	3	0.00	00.0
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.75	755.5	29.96	761.0	64.4	18.0	82	2	11	3	.....	.....	1	8	5	.....	.....	.....	2	.....	.....
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.15	587.9	30.21	767.3	46.8	8.2	77	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	0.00	00.0
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.57	573.2	30.11	764 8	47.7	8.7	60	.....	.....	3	15	.....	8	2	2	.....	.....	.....	6	0.00	00.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.94	760.4	29.97	761.2	48.7	9.3	.....	4	2	5	5	11	1	2	.....	.....	.....	.....	.....	1.48	37.5
Groningen	N. 53 12	E. 6 34	0.26 p.m.	?	?	29.92	759.9	29.93	760.1	47.3	8.5	.....	5	1	7	8	4	.....	2	2	1	.....	.....	.....	2.46	62.6
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.75	755.6	29.78	756.4	47.5	8.6	.....	4	4	2	5	12	1	2	.....	.....	.....	.....	.....	3.45	87.7
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.93	760.1	29.96	760.9	48.9	9.4	.....	3	1	6	1	13	1	1	.....	4	.....	.....	.....	1.88	47.7
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.89	759.3	29.97	761.3	47.5	8.6	.....	2	2	3	7	12	1	1	2	.....	.....	.....	3	1.96	49.9
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.69	754.2	78.1	25.6	86	1	3	6	7	4	2	1	.....	6	.....	.....	8	4.02	102.2
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.68	753.9	29.78	756.5	45.5	7.5	77	3	1	1	1	9	9	3	2	1	.....	.....	7	12.00	304.9
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.58	751.4	29.68	753.9	41.9	5.5	70	3	1	3	6	6	3	4	.....	4	.....	.....	8	6.56	166.6
Christiania	N. 59 55	E. 10 45	0.43 p.m.	135	41	29.67	753.5	29.85	758.3	39.6	4.2	86	1	1	.....	1	5	2	4	3	13	.....	.....	8	2.76	70.1
Gjæsvær	N. 71 00	E. 25 22	1.41 p.m.	23	7	29.52	749.7	29.60	751.8	34.0	1.1	.....	1	1	4	3	6	2	2	4	7	.....	.....	6	1.65	42.0
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.02	762.5	30.08	763.9	68.5	20.3	55	4	1	2	10	.....	7	1	5	.....	.....	.....	5	4.14	105.2
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.76	755.8	30.09	764.3	56.1	13.4	69	11	4	3	2	1	.....	.....	8	1	.....	.....	4	2.60	66.0
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.18	766.6	30.23	767.9	64.6	18.1	68	5	1	2	4	2	2	3	8	3	.....	.....	4	3.12	79.3
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.95	760.8	29.92	760.0	77.5	25.3	65	11	.....	.....	1	1	.....	1	14	.....	.....	.....	4	0.09	2.3
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.04	712 2	29.79	750.7	78.3	25.7	72	.....	.....	1	.....	.....	.....	.....	2	... .	27	.....	4	12.69	322.4
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.27	641.8	30.06	763.4	41.4	5.2	64	.....	2	8	7	.....	5	6	2	.....	.....	.....	4	18.78	477.3
RUSSIAN.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.81	757.2	29.88	758.9	22.5	— 5.3	90	2	3	2	2	4	8	7	.....	2	.....	.....	9	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.27	708.8	30.20	767.1	39.9	4.4	86	1	2	4	5	3	12	2	1	.....	.....	.....	7	.....	.....
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.23	767.8	30.18	766.6	53.8	12.1	82	5	3	....	2	4	3	3	2	8	.....	.....	6	0.26	6.7
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.79	756.7	30.35	770.9	13.5	—10.3	85	1	1	.....	14	1	.....	.....	2	11	.....	.....	7	1.06	26.9
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.68	753.9	29.95	760.7	37.9	3.3	92	2	1	2	9	5	3	4	4	.....	.....	.....	9	1.57	40.0
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.03	737.3	30.10	764 5	19.2	— 7.1	86	2	1	9	5	2	4	3	.....	4	.....	.....	9	0.61	15.5
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.65	753.1	30.12	765.0	44.1	6.7	78	5	4	4	3	7	6	1	.....	.....	.....	.....	8	0.96	24.4
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.79	731.3	30.58	770.7	13.3	—10.4	83	1	9	1	.....	.....	.....	.....	3	16	.....	.....	3	0.28	7.1
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.01	762.2	30.18	766.6	34.0	1.1	.....	3a	6	6	2	2	4	3	3	.....	.....	.....	4a	.....	.....
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.74	755.4	30.03	762.7	26.4	— 3.1	87	1	4	3	2	6	10	1	2	1	.....	.....	9	0.35	8.8
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.91	759.7	30.01	762.2	28.8	— 1.8	92	.....	5	7	4	4	3	.....	.....	7	.....	.....	9	1.14	29.0
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.11	764.8	30.13	765.3	48.0	8.9	76	5	1	6	.....	4	4	4	2	4	.....	.....	6	0.34	8.6
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.38	746.2	30.03	762.7	41.0	5.0	83	3	5	6	2	9	5	.....	.....	.....	.....	.....	8	1.78	45.3
Korost shev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.38	746.2	.....	.....	39.7	4.3	80	1	2	4	3	10	4	1	.....	5	.....	.....	7	1.86	47.3
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.50	749.3	30.09	764.3	34.9	1.6	88	3	.....	4	5	5	6	1	1	5	.....	.....	10	.....	.....
Lgov	N 51 38	E 35 17	2.21 p.m.	518	158	29.50	749 3	30.09	764.3	38.5	3.6	88	4	1	2	6	5	6	2	1	3	.....	.....	9	0.73	18.5
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.81	757.2	29.87	758.7	43.3	6.3	83	4	2	1	5	3	7	5	3	.....	.....	.....	8	1.23	31.2
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.97	761.2	30.15	765.8	41.9	5.5	76	2	2	4	8	5	5	3	1	.....	.....	.....	7	1.92	48.6
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.50	749.3	30.05	763.3	35.2	1.8	88	1	4	2	2	10	5	3	1	2	.....	.....	9	1.79	45.4
Nertchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.95	709.9	30.58	776.7	2.3	—16.5	.....	.....	.....	2	1	1	.....	.....	.....	26	.....	.....	3	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	30.03	762.7	30.10	764.5	45.9	7.7	78	4	4	2	.....	10	1	.....	1	8	.....	.....	7	0.46	11.7
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.87	758.7	29.96	761.0	14.7	— 9.6	74	.....	4	13	.....	.....	.....	.....	.....	10	.....	.....	4	.....	.....
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.64	752.8	30.05	763.3	25.9	— 3.4	78	2	2	1	1	2	12	3	3	4	.....	.....	10	1.22	31.1
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.64	752.8	30.05	763.3	20.8	— 6.2	88	2	1	9	3	2	2	2	1	8	.....	.....	9	1.11	28.1
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.94	760.5	30.29	769 4	46.6	8.2	.....	6	3	.....	1	2	5	2	6	5	.....	.....	5	0.43	11.0
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.71	754.6	30.03	762.7	32.5	0.3	86	1	3	3	9	1	3	3	3	4	.....	.....	9	1.80	45.6
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29 49	749.0	30.03	762.7	42.8	6.0	79	2	4	5	4	6	5	1	1	2	.....	.....	8	1.46	37.1
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	30.08	764.0	30.10	764.5	57.7	14.3	68	.....	.....	7	.....	1	.....	11	2	9	.....	.....	5	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.89	759 2	29.95	760.7	36.0	2.2	89	4	2	2	6	4	5	3	4	.....	.....	.....	9	2.25	57.1
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.71	703.8	30.17	766.3	48.6	9.2	.....	.....	1	1	.....	.....	1	.....	.....	27	.....	.....	5	.....	.....
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.85	758.2	30.09	764 3	52.2	11.2	66	2	6	7	4	2	3	.....	6	.....	.....	.....	5	1.20	30.4
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1608?	490?	28.55	725.2	30.24	768.1	45.3	7.4	69	.....	5	6	.....	1	2	.....	3	13	.....	.....	7	0.23	5.8
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.76	730.5	30.19	766.8	51.4	10.8	57	5	9	.....	.....	.....	10	2	.....	4	.....	.....	6	1.28	32.6
Troitskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.63a	701.8a	30.39a	771.9a	9.1a	-12.7a	82a	a	5	.....	.....	3	.....	.....	.....	21	.....	.....	3a	0.16	4.2
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.39	746.5	30.08	764.0	39.2	4.0	.....	1	5	4	2	5	4	2	4	3	.....	.....	9	1.26	32.1
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.53	750.0	30.00	762.0	43.0	6.1	81	3	2	5	7	6	5	1	.....	1	.....	.....	8	0.81	20.6
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	275?	84	30.09	764.3	30.44	773.2	7.9	—13.4	.....	1	.....	1	4	3	5	3	.....	13	.....	.....	6	0.37	9.5
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.88	758.8	30.03	762.7	55.8	13.2	70	1	5	10	6	.....	1	2	5	.....	147	236	5	1.01	25.6
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	30.01	762.2	30.07	763.7	50.3	13.5	71	1	9	3	4	5	5	1	2	.....	1336	2150	6	3.19	81.1
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.10	688.3	30.12	765 0	46.0	7.8	78	.....	2	1	8	8	1	1	9	.....	3848	6192	5	1.31	33.3
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.83	706.8	30.07	763.8	53.2	11.8	72	.....	2	1	5	4	2	3	13	.....	5503	8856	5	2.43	61.7
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.13	739.9	30.06	763.5	54.3	12.4	78	.....	3	2	4	.....	1	.....	15	.....	3894	6207	6	5.80	147.2

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for November, 1886.																				Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
SPANISH—*Sub.*	° ′	° ′																						0-10		
Havana	N. 23 08	W. 82 23	6.30 a.m.	62	19	30.04	763.1	30.06	763 5	69.3	20.7	86	7	.....	.....	.....	.....	13	8	2	.....	.....	.....	4	2.14	54.4
Manila	N. 14 35	E. 120 57	8.04 p.m.	52	16	29.85	758.3	29.85	758.2	78.1	25.6	83	9	.....	.....	1	.....	3	3	10	4	2551	4505	6	2.50	63.5
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.00	762.0	30.08	764.0	61.3	16.3	70	2	5	4	3	.....	1	5	6	4	.....	.....	4	4.41	112.0
San Juan de Porto Rico	N. 18 30	W. 66 10	7.35 a.m.	82	25	29.92a	760.0a	30.01a	762 2a	77.9	25.5	74	1	.....	.....	.....	1	3	11	7	7	.....	.....	5	9.68	245.8
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.70	754.3	29.79	756.6	32.5	0.3	92	4	3	5	2	7	2	5	1	1	.....	.....	8	2.52	64.0
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.72	754.9	29.82	757.4	36.1	2.3	91	4	2	3	6	4	1	1	2	7	.....	.....	7	1.85	46.9
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.74	755.4	29.84	757.8	37.8	3.2	85	3	1	1	6	7	.....	.....	2	10	.....	.....	7	1.87	47.6
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.68	753.9	29.89	759.3	41.5	5.3	85	2	2	6	5	5	4	3	2	1	.....	.....	8	1.17	29.7
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.78	756.5	29.87	758 8	44.2	6.8	84	3	2	3	8	3	6	3	2	.....	.....	.....	6	2.54	64.4
Sub-Series.																												
Upsala	N 59 51	E. 17 37	1.10 p.m.	79	24	29.74	755.3	29.89	7.591	39.9	4.4	91	2	3	1	9	6	4	2	3	.....	.....	.....	9	2.24	56.8
SWISS.																												
Geneva	N. 46 12	E 6 08	0.25 p m.	1339	408	28.62	726.9	30.08	764.0	46.6	8.1	79	7	1	5	2	7	2	3	3	.....	.....	.....	7	6.90	175.3
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	30.09	764.2	55.6	13.1	72	10	.....	.....	19	.....	.....	.....	1	.....	.....	.....	7	1.56	39.6
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.15	765.9	62.6	17.0	.....	1	4	.....	1	9	6	1	7	1	.....	.....	6	6.85	174.
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	.....	.....	30.00	762.1	68.0	20.0	63	9	2	8	3	1	.....	.....	1	6	.....	.....	5	3.86	98.0
UNITED STATES.																												
Atlantic states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.81	757.2	.....	.....	36.5	2.5	.....	2	6	8	7	3	1	1	2	.....	.....	.....	6	.....	.....
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.84	757.9	29.95	760.7	35.8	2.1	84	6	1	8	10	1	.....	.....	.....	4	6171	9932	6	5.33	135.4
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.47	596.1	29.88	758.9	18.2	— 7.7	96	.....	9	8	8	1	2	1	1	.....	.....	.....	4	6.48	164.6
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.83	757.7	29.96	761.0	40.3	4.6	78	1	2	16	3	5	1	.....	2	.....	8584	13814	5	3.59	91.2
Nantucket	N. 41 14	W. 70 07	6.40 a.m.	13	4	30.00	702 0	30.00	762.0	45.3	7.4	78	3	12	2	7	1	3	.....	2	.....	8290	13341	5	2.25	57.1
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	29.99	761.7	30.01	762.2	44.9	7.2	84	3	8	7	4	3	3	.....	2	.....	10018d	16122d	6	5.16	131.1
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	29.96	761.0	30.00	762.0	41.2	5.1	80	5	8	5	1	3	.....	.....	5	3	5625	9052	6	4.57	116.1
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	29.90	759.4	30.01	762.2	39.0	3.9	76	5	6	9	4	2	1	.....	2	1	5614	9035	6	3.83	97.3
Albany	N. 42 39	W. 73 45	7.05 a.m.	85	26	29.92	760 0	30.01	762.2	36.8	2.7	77	5	2	5	2	10	1	.....	5	.....	5279a	8497a	7	5.40	137.2
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.87	758.7	30.04	763.0	42.1	5.6	75	4	7	5	5	3	2	1	2	1	7046	11344	5	4.61	117.1
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	29.94	760 5	30.06	763.5	42.4	5.8	67	3	7	7	1	5	1	.....	5	1	7832	12604	5	3.91	99.3
Sandy Hook	N. 40 28	W. 74 00	7.04 a.m.	28	9	30.03	762.7	30.05	763.3	43.6	6.4	77	2	4	10	5	5	1	.....	3	.....	14039	22593	5	5.88	149.4
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.06	763.5	30.06	763.5	43.7	6.5	84	1	7	9	3	4	1	1	1	3	5960	9592	4	3.45	87.6
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.02	762 5	30.06	763.5	42.4	5.8	70	4	5	6	1	4	1	1	3	5	4708	7577	4	4.09	103.9
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	29.97	761.2	30.07	763.8	41.4	5.2	73	3	9	2	7	1	.....	.....	5	3	4502	7245	4	2.88	73.2
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.08	764.0	30.08	764.0	47.3	8.5	74	2	5	6	1	4	1	2	4	.....	8768	14271	4	3.65	92.7
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.09	764.3	30.09	764.3	49.7	9.8	72	1	7	3	8	5	3	.....	2	1	9350	15047	4	2.76	70.1
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.40	746.7	30.09	764 3	40.3	4.6	79	1	4	5	7	2	1	2	1	7	2596	4178	5	4.49	114.0
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.09	764.3	30.10	764 5	46.6	8.1	78	3	6	3	3	5	3	1	3	3	5323	8566	5	1.94	49.3
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.12	765.0	30.12	765.0	50.9	10.5	74	.....	12	4	6	4	.....	2	2	.....	9884	15906	4	1.39	35.3
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.14	765.5	30.13	765.3	53.9	12.2	78	7	10	4	3	2	.....	.....	1	3	7611	12248	3	1.56	39.6
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.15	765.8	30.13	765.3	51.7	10.9	78	3	12	3	2	4	1	1	4	.....	8599	13838	3	1.17	29.7
Wilmington	N. 34 14	W. 77 57	6.48 a.m	52	16	30.10	764.5	30.13	765.3	49.1	9.5	78	4	7	3	5	3	1	1	5	5	4626	7445	4	0.19	4.8
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.28	743.7	30.12	765.0	43.3	6.3	85	2	4	1	6	4	1	1	.....	10	2814	4529	4	2.88	73.2
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.13	765.3	30.15	765.8	51.5	10.8	76	9	4	4	5	1	2	2	1	1	4899	7884	4	0.33	8.4
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.00	762.0	30.17	766.3	42.5	5.8	94	.....	5	8	3	5	.....	2	.....	7	2395	3854	4	1.29	32.8
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.10	764.5	30.16	766.1	50.8	10.4	80	3	7	7	2	2	2	.....	1	1	4305	7015	4	0.51	13.0
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.15	765 8	30.16	766.1	51.4	10.8	85	3	8	2	2	2	2	2	7	3665	5898	2	0.97	24.6
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.20	767.1	30.18	766.6	54.8	12.7	78	7	2	1	1	2	3	2	9	3	5496	8845	3	0.58	14.7
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.12	765.0	30.09	764.3	71.2	21.8	82	2	.....	.....	.....	.....	3	2	6	17	9591	15435	5	0.13	3.3
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.14	765.5	30.13	765.3	58.5	14.7	83	13	2	4	1	4	2	2	.....	2	4748	7641	3	0.79	20.1
Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.98	736.1	30.15	765.8	44.2	6.8	72	2	8	7	6	2	3	2	.....	.....	7262	11687	5	5.32	135.1
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.15	765.8	30.14	765.5	52.7	11.5	80	13	3	1	3	4	1	2	3	.....	4922	7921	4	2.76	70.1
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.16	766.1	30.16	766.1	49.4	9.7	85	8	11	1	3	4	1	2	.....	.....	6034	9711	6	3.36	85.3
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.95	760.7	30.16	766.1	46.9	8.3	86	8	3	1	3	3	8	2	...	2	3662	5893	4	6.72	170.7
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.94	760.5	30.15	765.8	48.9	9.4	83	1	2	1	3	11	5	.....	4	3	4815	7749	5	4.34	110.2
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.13	765 3	30.15	765.8	55.0	12.8	82	3	1	2	4	2	2	7	8	1	5906	9505	5	5.33	135.4
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.93	760.2	30.14	765.5	47.2	8.4	87	4	4	1	3	11	3	1	1	2	4294	6910	5	3.60	91.4
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.60	751.8	30.10	764.5	39.6	4.2	88	2	2	6	1	.....	3	1	3	2	3537	5708	5	2.66	67.6
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.81	757.2	30.10	764.5	42.2	5.7	82	1	3	2	4	3	2	.....	.....	15	2692	4332	4	5.81	147.6
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.14	765.5	30.14	765.5	59.3	15.1	81	2	2	.....	6	7	4	2	7	.....	6456	10390	5	2.65	67.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.62	752.3	30.16	766.1	48.5	9.2	79	4	3	2	6	8	2	1	4	.....	7103	11528	5	1.42	36.1
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.33	745.0	30.12	765.0	52.2	11.2	84	11	1	2	.....	5	2	3	5	1	5895	9487	6	0.33	8.4
Brownsville	N. 25 53	W. 97 26	5.30 a.m	57	17	30.07a	763.8a	30.08a	764.0a	a61.1	a16.2	a87	a7	3	1	2	7	2	4	1	2	6096	9810	a4	0.48a	a12.2
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.94	760.5	30.14	765.5	59.3	15.2	88	12	2	.....	.....	2	6	3	1	4	4222	6794	5	1.45	36.8
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.35	745.5	30.17	766.3	41.3	5.2	82	.....	10	4	3	6	3	2	1	1	4397	7076	5	5.42	137.7
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	29.12	739.6	30.16	766.1	39.4	4.1	87	4	6	2	4	.....	2	1	4	2	4262	6859	5	7.21	183.1
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.80	756.9	30.12	765.0	43.6	6.4	80	1	6	4	3	6	3	4	1	2	4945	7958	5	8.89	225.8
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.54	750.3	30.11	764.8	40.0	4.4	86	2	1	5	7	2	7	1	3	2	4788	7705	5	5.76	146.3
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.50	749 3	30.08	764 0	38.9	3 8	79	3	2	3	10	7	1	2	1	1	5287	8508	5	5.72	145.3
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.24	742.7	30.07	763.8	34.7	1.5	78	2	3	3	10	4	6	1	1	.....	4730	7612	6	3.87	98.3
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.42	747.3	30.08	764.0	37.2	2.9	81	4	1	5	6	3	7	.....	2	2	6367	10246	6	3.23	82.0
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.19	741.4	30.06	763.5	34.5	1.4	77	1	2	7	8	6	3	2	1	.....	6652	10705	6	4.18	106.2
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.15	740.4	30.04	763.0	37.9	3.3	78	2	3	4	6	8	1	.....	5	1	6215	10002	7	4.91	124.7
Lake region.																												
Rochester	N. 43 08	W. 77 42	6.49 a.m.	621	189	29.30	744.2	29.98	761.5	34.2	1.2	84	3	.....	11	9	5	1	1	.....	.....	10283	16548	8	4.45	113.0
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.23	742.4	29.98	761.5	35.9	2.2	80	2	1	12	4	6	2	.....	3	.....	11577	18031	7	6.05	153.7
Oswego	N. 43 29	W. 76 35	6.54 a.m	335	102	29.59	751.6	29.96	761.0	36.0	2.2	79	.....	7	4	2	10	1	1	5	.....	11167	17971	9	4.07	103.4
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.25	742.9	29.99	761.7	36.8	2.7	77	.....	4	3	14	3	2	2	2	.....	10039	16156	7	6.21	157.7
Sandusky	N 41 25	W. 82 40	6.29 a.m.	638	194	29.35	745.5	30.04	763 0	35.1	1.7	78	1	2	7	12	4	1	2	1	.....	11098	17860	6	2.94	74.7
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.27	743.4	30.02	762.5	36.0	2.2	71	.....	1	6	9	7	2	4	1	.....	8365	13462	7	3.89	98.8
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.33	745.0	30.03	762.7	33.8	1.0	76	2	4	2	16	4	.....	2	.....	.....	7465	12014	7	2.77	70.4
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.29	744 0	30.01	762.2	36.0	2.2	79	4	4	14	3	.....	2	2	1	.....	6595	10613	7	2.17	55.1
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.27	743.4	29.95	760.7	29.4	— 1.4	87	.....	4	4	12	7	2	.....	3	.....	7591	12216	8	4.73	120.1
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.28	743.7	29.96	761.0	27.0	2.8	74	2	11	7	6	7	.....	.....	2	2	6670	10734	6	2.26	57.4
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.30	744.2	29.98	761.5	33.3	0.7	79	5	1	7	5	4	1	2	5	.....	10012	17078	7	2.56	65.0
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.25	742.9	29.93	760.2	33.0	0.6	74	1	5	8	4	7	2	1	1	1	10254	16502	7	1.33	33.8
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.19	741 4	29.94	760.5	28.5	— 1.9	81	1	8	13	2	3	1	1	.....	.....	8320	13390	8	3.75	95.2
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	639	195	29.29	744.0	29.99	761.7	33.0	0.6	79	.....	3	8	11	2	.....	5	1	.....	10188	16396	7	2.40	61.0
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.31	744.5	30.02	762.5	34.3	1.3	83	3	2	10	4	8	.....	3	.....	.....	6924	11143	5	1.66	42 2
Green Bay	N. 44 31	W. 87 54	6.09 a.m.	616	188	29.31	744.5	30.00	762.0	26.5	— 3.1	84	1	4	7	8	8	.....	2	.....	.....	6592	10609	6	2.88	73.2
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.24	742.7	30.01	762.2	29.7	— 1.3	70	1	6	12	6	1	1	3	.....	.....	9529	15335	6	1.62	41.1
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.22	742.2	29.98	761.5	23.9	— 4.5	81	2	7	4	11	1	.....	.....	3	2	5789	9316	5	2.84	72.1
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.06	738.1	29.99	761.7	23.3	— 4.8	80	1	3	6	1	3	5	5	1	5	6105	9825	5	2.07	52.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.24	742.7	30.04	763.0	28.8	— 1.8	79	3	6	5	1	11	1	2	1	.....	5994	9646	5	1.32	33.5
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.37	746.0	30.04	763.0	30.3	— 0.9	76	4	4	5	9	3	.....	2	3	.....	6721	10816	6	0.74	18.8
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.11	739.4	30.02	762.5	30.9	— 0.6	80	6	6	3	5	4	2	.....	3	1	5064	8150	5	1.86	47.2
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.30	744.2	30.03	762.7	28.3	— 2.1	79	5	5	9	1	7	.....	2	1	.....	4133	6651	6	1.89	48.0
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.37	746.0	30.05	763.3	33.7	0.9	80	3	3	8	4	3	7	1	2	2	7369	11869	5	1.15	29.2
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.72	754.9	30.10	764.5	39.8	4.3	81	3	4	4	0	5	3	.....	2	.....	6341	10205	5	5.73	145.5

RESULT OF SIMULTANEOUS OBSERVATIONS FOR NOVEMBER, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Mean Barometer. Actual.		Mean Barometer. Reduced.		Mean Temperature.		Mean Rel. Humidity.	Wind. Directions. N	NW	W	SW	S	SE	E	NE	C	Wind. Total Movement. Miles	Kil.	Average Cloudiness.	Total Precipitation. Inch.	Mill.
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.													0-10		
U. STATES—Con.																										
U. Miss. val.—Con.	° ′	°																								
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.38	746.2	30.07	763.8	37.7	3.2	73	4	5	6	4	3	3	1	3	1	7344	11819	5	1.74	44.2
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.46	748.3	30.07	763.8	41.5	5.3	68	4	5	6	5	4	2	4	.....	.....	8772	14117	5	3.36	85.3
Missouri valley.																										
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.18	741.2	30.07	763.8	33.4	0.8	73	7	9	1	.....	8	1	.....	2	2	5817	9361	5	1.10	27.9
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	28.85	732.8	30.03	762.7	28.6	—1.9	79	4	7	2	2	5	4	.....	2	4	7210	11603	4	1.54	39.1
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.32	719.3	30.07	763.8	24.4	—4.2	72	1	14	3	1	.....	3	4	.....	4	8249	13275	4	1.60	40.6
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.60	726.4	30.04	763.0	22.0	—5.6	72	2	11	3	2	.....	10	.....	1	1	7025	11305	6	1.18	30.0
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	374	28.66	728.0	30.01	762.0	25.3	—3.7	77	1	9	4	6	2	3	2	2	1	7155	11515	5	2.44	62.0
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.00	736.6	30.10	764.5	36.4	2.4	84	6	2	2	7	8	.....	2	3	.....	8089	13018	4	1.68	42.7
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2603	793	27.29	693.2	30.07	763 8	25.8	—3.4	77	5	15	3	5	1	.....	.....	2	1	10509*a*	16912*a*	4	0.56	14.2
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	28.96	735.6	30.01	762.0	16.6	—8.6	79	7	4	2	4	7	2	1	3	.....	8464	13621	5	2.42	61.5
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.12	739.6	30.05	763.3	13.1	-10.5	82	13	5	3	1	7	.....	.....	.....	1	7516	12096	4	0.52	13.2
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.19	716 0	30.07	763.8	20.4	—6.4	86	11	10	.....	1	1	3	2	1	1	6264	10081	4	1.24	31.5
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	27.98	710.7	30.03	762.7	20.6	—6.3	93	.....	7	10	2	6	.....	1	2	2	6724	10821	5	0.59	15.0
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.36	720.3	30.06	763.5	13.2	-10.4	80	4	10	4	2	2	3	.....	5	.....	9955	16021	4	0.65	16.5
Rocky Mount. reg.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.23	691.6	30.14	765.5	24.3	—4.3	64	.....	1	3	18	2	1	4	1	.....	10310	16592	4	0.74	18.8
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.90*a*	683.2*a*	30.15*a*	765.8*a*	*a*25.6	*a*—3.6	*a*84	*a*7	2	5	3	2	8	.....	2	2	5319	8560	*a*5	0.30	9.1
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.56	649.2	30.07	763.8	25.2	—3.8	74	2	26	.....	.....	.....	.....	.....	2	.....	11530	18555	5	1.67	42.4
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.90	657.8	30.16	761.1	26.6	—3.0	72	1	5	4	15	4	.....	.....	1	.....	5273	8486	5	0.49	12.4
Poplar River	N. 48 08	W 105 10	4.59 a.m.	2000	610	27.90	708.6	30.11	764 8	14.4	—9.8	81	6	3	16	.....	.....	.....	.....	4	1	5615	9036	5	0.69	17.5
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.35	643.9	30.14	765.5	27.1	—2.7	78	.....	.....	.....	16	1	.. ...	.....	12	1	3822	6151	5	3.24	82.3
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.08	687.8	30.09	764 3	24.7	—4.1	84	5	4	16	.....	2	1	.....	1	1	6907	11116	2	0.43	10.9
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	14134	4308	17.58	446.5	30.11	764.8	5.0	-15.0	78	8	4	8	5	.....	.....	1	4	.....	21085	33932	2	1.07	27.2
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.58	725.9	30.06	763.5	30.2	—1.0	67	4	5	5	5	4	.....	2	2	3	6640	10186	4	1.29	32.8
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.74	628.4	30.10	764 5	27.5	—2.5	72	6	1	5	2	14	.....	1	1	.....	6683	10755	3	1.93	49.0
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.07	662.2	30.12	765.0	20.5	—6.4	90	.....	6	19	.....	.....	1	2	2	.....	4956	7976	2	0.23	5.8
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2524	770	27.43	696.7	30.12	765.0	28.4	—2.0	78	5	3	2	5	4	4	1	3	3	6662	9756	2	0.24	6.1
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.29	693.2	30.04	763.0	34.7	1.5	75	5	8	1	6	2	2	.....	.. ...	6	7762	12492	2	0.18	4.6
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.87	733.3	30.12	765.0	39.9	4.4	78	17	1	1	1	9	.....	1	.....	....	7657	12323	4	0.47	11.9
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.30	718.8	30.11	764.8	44.9	7.2	72	4	2	2	11	5	.....	1	4	1	7979	12841	4	0.65	16.5
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.24	641.1	30.08	764.0	40.4	4.7	50	3	2	1	11	1	1	.....	5	6	5722	9209	3	0.03	0.8
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	23.99	609.3	30.00	762.0	27.4	—2.6	73	1	9	10	1	1	4	3	1	.....	6611	10639	2	0.15	3.8
Plateau region.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26.45	671.8	30.14	765.5	39.0	3.9	52	3	4	.....	.....	.....	1	7	6	9	3457	5563	1	0.08	2.0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.28	591.3	30.14	765.5	27.1	—2.7	63	11	.....	2	1	3	2	1	10	.....	5676	9135	2	0.30	7.6
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.34	694.4	30.12	765.0	34.7	1.5	80	1	3	2	2	13	2	2	1	4	2524	4062	2	0.16	4.1
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.11	637 8	30.20	767.1	28.3	—2.1	70	.....	.....	.....	3	1	1	9	13	3	4117	6626	2	0.56	14.2
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.29	642.4	30.14	765.5	41.2	5.1	58	2	3	2	.....	1	4	9	9	.....	5266	8475	2	0.10	2.5
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.78	629.4	30.18	766.6	25.2	—3.8	72	1	1	1	7	1	.....	.....	.....	19	3876	6238	1	1.68	42.7
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.95	760.7	30.07	763.8	50.0	10.0	56	12	2	.....	1	3	.....	4	8	.....	5300	8529	2	0.23	5.8
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.36	669.5	30.14	765.5	38.5	3.6	69	1	1	13	2	.....	.....	2	3	8	3228	5195	3	0.52	13.2
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.54	597.9	30.21	767.3	19.5	—6.9	84	1	.....	4	22	2	.....	.....	.....	1	6087	11015	4	1.29	32.8
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.77	654.5	30.27	768.8	27.7	—2.4	80	1	3	.....	.. ...	1	10	1	4	10	2730	4393	5	1.79	45.5
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.76	603.5	30.10	764.5	27.7	—2.4	67	9	6	5	5	1	.....	.....	2	2	5719	9204	3	1.23	31.2
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.78	654.8	30.31	769.9	22.3	—5.4	72	.....	.....	.....	..	12	. ....	.....	5	12	1	5372	8645	2	0.80	20.3
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.35	618.5	30.19	766.8	22.7	—5.2	71	.....	2	3	2	2	18	....	1	2	3304	5317	3	0.54	13.7
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.55	649 0	30.32	770.1	27.7	—2.4	82	1	14	8	1	2	.....	3	1	.....	2927	4710	3	1.06	26.9
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.38	695.4	30.32	770.1	26.6	—3.0	83	1	7	1	1	3	9	1	2	5	2463	3964	3	0.43	10.9
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.16	715.3	30.26	768.6	26.3	—3.2	85	10	1	6	7	1	.....	1	.....	4	2136	3438	3	0.71	18.0
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	29.15	740 4	30.27	768.8	35.4	1.9	77	1	.....	2	9	12	4	.....	2	.....	3693	5943	4	0.78	19.8
Pacific coast reg'n.																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	30.01	762.2	30.21	767.3	42.8	6.0	87	4	1	3	5	9	7	.....	.....	1	7477	12033	5	4.47	113.5
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	30.18	766.6	30.23	767.8	39.0	3.9	93	1	2	.. ...	6	15	1	2	1	2	2673	4302	6	1.73	43.9
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	30.17	766.3	30.19	766.8	35.5	1.9	96	.....	.....	.....	1	28	1	.....	.....	.....	2951	4749	6	1.46	37.1
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	30.05	763.3	30.15	765.8	44.5	6.9	88	.....	4	.....	3	3	8	12	.....	.....	10425	16777	6	10.44	265.2
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	30.16	766.1	30.25	768.3	38.2	3.4	91	4	5	1	.....	7	3	.....	.....	10	2685	4321	4	1.00	25.4
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.70	754 4	30.27	768.8	36.7	2.6	96	2	4	2	4	3	....	4	2	9	1735	2792	4	2.63	66.8
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.48	748.8	30.16	766.1	49.2	9.6	81	19	.....	.....	.....	2	2	2	4	1	10564	17001	4	1.07	27.2
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	342	104	29.83	757.7	30.17	766.3	43.5	6.4	67	17	2	1	1	2	1	.....	4	2	3921	6310	2	0.34	8.6
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.11	764.8	30.16	766.1	42.0	5.6	81	5	7	.....	.....	1	9	4	.....	4	3685	5930	1	0.21	5.3
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.12	765.0	30.16	766.1	50.6	10.3	81	12	5	3	2	4	1	.....	3	.....	4949	7964	3	0.84	21.3
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.74	755.4	30.07	763.8	47.2	8.4	73	.....	1	.....	.....	.....	1	2	26	.....	4467	7189	2	1.18	30.0
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	30.03	762.7	30.07	763.8	49.6	9.8	75	.....	2	.....	.....	.....	1	8	9	10	3495	5624	2	0.95	24.1
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.74	755.4	29.84	757.9	38.2	3.4	80	1	1	4	2	3	5	13	.....	1	10346	16650	8	20.51	521.9
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.02	559.2	.....	.....	53.1	11.7	84	1	.....	2	4	1	.....	.....	.....	22	.....	2171	6	4.81	122.1
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	29.99	761.7	29.91	759.7	87.3	30.7	81	.....	.....	.....	1	1	19	9	.....	.....	.....	.....	4	9.04	229.6
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	29.92	760.0	30.00	762.0	75.2	24.0	76	.....	1	.....	.....	.....	1	11	17	.....	.....	.....	5	3.75	95.2
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	63.2	17.3	.....	18	.....	.....	.....	.....	.....	.....	12	.....	.....	.....	.....	.....	307.8
Vera Cruz	N 19 11	W 96 09	5.35 a.m	16	5	30.00	762.0	29.96	761.0	.....	.....	.....	10	1	5	1	1	1	.....	.....	11	.....	.....	2	.....	.....

OCEAN SQUARE DATA FOR NOVEMBER, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
° ° N. 12.5 W. 22.5															
12.5 27.5															
12.5 32.5															
12.5 37.5	29.97	761.2						1		1	22	6			4.2
12.5 42.5	29.98	761.5						1			26	3			4.3
12.5 47.5	29.96	761.0								3	25	2			4.4
12.5 52.5	29.94	760.5								4	26				4.3
17.5 22.5															
17.5 27.5															
17.5 32.5															
17.5 37.5	30.02	762.5							1		22	7			4.4
17.5 42.5	30.03	762.7			1			1		1	24	3			4.3
17.5 47.5	30.02	762.5			1				1	7	21				4.4
17.5 52.5	30.00	762.0							1	10	18	1			4.6
17.5 57.5	29.95	760.7								3	24	3			4.0
22.5 22.5															
22.5 27.5	30.05	763.3			4						17	8		1	4.4
22.5 32.5	30.07	763.8			3						20	7			4.4
22.5 37.5	30.08	764.0			1					2	18	9			4.1
22.5 42.5	30.08	764.0				1	1	1	1		19	4	1	2	3.9
22.5 47.5	30.08	764.0				1			3	6	14	5	1		3.9
22.5 52.5	30.06	763.5			2				2	10	14	2			4.1
22.5 57.5	30.03	762.7			1					9	13	7			4.6
22.5 62.5	30.02	762.5			2				1	3	11	12	1		4.6
22.5 67.5															
22.5 72.5	30.04	763.0			2	1					14	13			4.3
27.5 22.5	30.06	763.5			2	2	1	1		1	12	10		1	4.4
27.5 27.5	30.09	764.3			2	3			1	2	12	10			4.4
27.5 32.5	30.12	765.0			4	1				4	15	6			4.1
27.5 37.5	30.13	765.3			4	1		1	2	4	13	5			4.0
27.5 42.5	30.14	765.5			3	1	2		2	7	7	7	1		4.1
27.5 47.5	30.14	765.5			4	3	2	1	2	5	8	4	1		4.2
27.5 52.5	30.13	765.3			2	3		3	3	8	7	2	2		3.6
27.5 57.5	30.15	765.8			7	2	1		3	9	5	3			4.2
27.5 62.5	30.10	764.5			6	2		1	3	4	9	5			4.0
27.5 67.5	30.11	764.8			8		1		1	4	6	10			4.3
27.5 72.5	30.12	765.0			7	2			3	3	4	10		1	4.1
27.5 77.5															
32.5 12.5															
32.5 17.5															
32.5 22.5															
32.5 27.5	30.15	765.8			4		2		2	2	13	7			4.4
32.5 32.5	30.17	766.3			4	1	1		5	6	7	6			3.9
32.5 37.5	30.18	766.6			4	2		4	4	6	7	3			4.1
32.5 42.5	30.17	766.3			3	3	3	3	6	4	5	2	1		4.2
32.5 47.5	30.17	766.3			6	1	5	2	5	4	5	2			4.1
32.5 52.5	30.15	765.8			2	3	3	3	4	7	3	5			4.3
32.5 57.5	30.14	765.5			4	4	3	2	7	7	1	2			4.4
32.5 62.5	30.12	765.0			6	5	2	3	5	1	5	2	1		4.3
32.5 67.5	30.12	765.0			7	4	3	3	2	4	1	5	1		4.3
32.5 72.5	30.12	765.0			7	8	1	3	4	1	2	3	1		4.3
32.5 77.5															
37.5 12.5															
37.5 17.5															
37.5 22.5															
37.5 27.5															
37.5 32.5	30.21	767.3			1	3	1	5	7	1	7	3	2		4.0
37.5 37.5	30.17	766.3				2	2	5	9	2	5	5			4.7
37.5 42.5	30.14	765.5			3	3	3	5	10	2	2	2			4.9
37.5 47.5	30.12	765.0			3	6	6	4	4	3	2	2			4.4
37.5 52.5	30.10	764.5			4	7	3	4	5	4	1	2			4.6
37.5 57.5	30.07	763.8			2	10	2	4	6	2	2	1	1		4.7
37.5 62.5	30.06	763.5			3	8	4	5	4	3	0	3			5.7
37.5 67.5	30.05	763.3			2	11	3	4	4	1	2	3			5.3
37.5 72.5															
42.5 12.5															
42.5 17.5															
42.5 22.5	30.18	766.6			3	5	6	3	3	2	1	6		1	5.0
42.5 27.5	30.19	766.8			1	4	5	6	6		1	7			4.9
42.5 32.5	30.17	766.3			1	5	2	9	4	3	4	2			4.9
42.5 37.5	30.13	765.3			1	5	2	8	4	5		5			5.1
42.5 42.5	30.09	764.3			2	3	5	8	5	3	3	1			5.1
42.5 47.5	30.04	763.0			2	5	6	6	4	4	1	2			5.2
42.5 52.5	30.01	762.2			2	8	4	5	5	5		1			5.1
42.5 57.5	29.99	761.7			2	8	4	3	3	3	3	4			5.1
42.5 62.5															
42.5 67.5															
47.5 12.5															
47.5 17.5	30.07	763.8			4	8	4	5	3	4	1	1			6.1
47.5 22.5	30.09	764.3			3	7	6	7	3	2	1	1			5.4
47.5 27.5	30.09	764.3			6	7	4	5	6		1			1	5.6
47.5 32.5	30.08	764.0			5	4	6	7	5	2		1			5.0
47.5 37.5	30.04	763.0			3	7	6	9	2	1		1	1		4.8
47.5 42.5	29.99	761.7			4	5	5	9	4	1		1	1		5.0
47.5 47.5	29.94	760.5			3	3	3	10	6	2		3			4.8
52.5 12.5															
52.5 17.5	29.94	760.5			3	8	6	7	5			1			6.2
52.5 22.5	29.94	760.5			4	9	5	8	4						6.1
52.5 27.5	29.93	760.2			2	10	5	7	6						5.9
52.5 32.5	29.91	759.7			2	9	5	5	9						5.6
52.5 37.5	29.92	760.0			2	6	6	9	4				1	2	5.0
52.5 42.5	29.95	760.7			1	4	7	8	2					8	5.6
52.5 47.5	29.91	759.7				5	3	9	4					9	4.7
57.5 12.5	29.76	755.9			4	8	3	10	3			2			5.3
57.5 17.5	29.76	755.9			4	8	6	6	5			1			5.9
57.5 22.5	29.77	756.1			1	13	2	8	4					2	6.0
57.5 27.5	29.80	756.9			1	12	3	4	6					4	6.4
57.5 32.5	29.83	757.7			1	11	5	1	6					6	6.0
57.5 37.5	29.91	759.7			1	6	3	3	2	1				14	6.0
57.5 42.4															
57.5 47.5															

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

REVIEW.

INTERNATIONAL METEOROLOGY FOR NOVEMBER, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of November, 1886. This chart continues the series of international charts begun in January, 1877, and exhibits the mean pressure, mean temperature, and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The area of lowest mean barometric pressure occupies the Atlantic Ocean north of the British Isles, and the isobar of 29.70 (754.4), by which it is bounded, extends southeastward from Iceland to the sixtieth parallel, and thence trends northeastward over the northern part of Norway. The lowest barometric mean which appears within this area is 29.60 (751.8) at Gjæsvær, Norway. An area of relatively low mean pressure is located on the west coast of the American continent north of the fifty-fifth parallel, with mean reading 29.84 (757.9) at Sitka, Alaska. Over British India south of the twenty-fifth parallel, and over the Philippine Islands south of the fifteenth parallel, the barometric means range below 29.90 (759.4).

The area of highest mean pressure is charted over central Asia, with barometric maxima rising to 30.58 (776.7) at Irkutsk and Nerckinsk. A second area of low mean pressure, included within the isobar of 30.30 (769.6), appears over the west-central portion of the American continent; while over the north Atlantic ocean a limited area of mean high pressure, with values ranging above 30.20 (767.1), is central over the Azores. An elongated area of relatively high mean pressure extends northwestward over Europe from the Ægean Sea to the fiftieth parallel, with barometric maxima ranging to about 30.20 (767.1).

Over the North American continent the mean pressure ranges from below 29.80 (756.9) over the British Possessions north of the fiftieth parallel and east of the seventy-fifth meridian, and from below 29.90 (759.4) in Alaska, to above 30.30 (769.6) over Oregon, Nevada, and northeastern California. Over the north Atlantic Ocean there is a barometric gradient of over .60 of an inch between the thirty-eighth and seventieth parallels. Over the continent of Europe mean barometric minima ranging to 29.60 (751.8) are shown on the northwest coast of Norway, and maxima above 30.20 (767.1) appear over a portion, and to the northward of, the Caspian Sea. Over Asia there is a steep barometric gradient of about .60 of an inch between the west coast of the Sea of Okhotsk and the one hundred and twentieth meridian; from the fiftieth parallel southward to the southern part of British India there is a gradient of about .80 of an inch, while between the area of barometric maxima and Maylasia there is a range in mean pressure of about .75 of an inch.

When compared with the chart for the preceding month, October, 1886, a very large decrease in mean pressure is noted over that portion of the United States lying north of the thirty-fifth parallel and east of the Mississippi River, the departures in New England ranging to .27 of an inch. In the Rocky Mountain regions and along the Pacific coast there has been an increase of .15 to .27 of an inch. In the British Possessions in North America there has been a decrease in mean pressure of .10 to .20 of an inch over the Maritime Provinces, along the Saint Lawrence Valley, and in the Lake regions; in the Saskatchewan Valley there has been an increase of about .10 of an inch; along the Pacific coast there has been an increase ranging from .03 at Sitka, Alaska, to .10 of an inch at Vancouver Island. Over the north Atlantic Ocean the area of low mean barometer charted for October south and southwest of Iceland has moved to the eastward of Iceland, with an increase in pressure of about .10 of an inch, while the area of high barometer occupies a more northerly position than in the preceding month, with no material changes in included mean values. Over the British Isles there has been an increase in mean pressure of about .15 of an inch in Ireland; over Scotland slight changes have occurred, while over England there has been an increase amounting to about .15 of an inch on the southern coast. Over the continent of Europe the extensive area of high mean barometer which appeared for October has contracted southward and occupies a limited area over southern Europe, its transition attending the eastward movement of the area of low pressure over the north Atlantic, and being accompanied by a general decrease in mean pressure over the entire continent. Over Asia there has been a general increase in mean pressure of about .10 of an inch, except in Maylasia where slight changes have occurred.

In the United States the mean pressure for the month was about normal along the eastern slope of the Rocky Mountains; from this region eastward it was generally below the normal; along the Pacific coast it was considerably above the normal. In Canada the mean pressure was below the normal by amounts ranging from .14 of an inch at Quebec to less than .01 of an inch at Sydney, C. B. In the British Isles the mean pressure averaged somewhat below the normal. Over the continent of Europe the mean pressure was above the normal, except in Norway and Spain, the departures being nowhere large. In British India the mean pressure was below the normal, while at Zi-Ka-Wei, China, and Tokio, Japan, the mean barometer was .07 and .05 of an inch above the normal, respectively.

In the United States the month was colder than the average November in all districts, except New England, the middle Atlantic states, and North Carolina. In Canada the average temperature corresponded closely with the normal in Ontario; in Quebec and the Maritime Provinces it was considerably above the normal; in Manitoba it was below the normal; in the Northwest Territories it was about 3° below the normal for three years, while in British Columbia it was slightly below the normal. In the British Isles the month was slightly warmer than the average November. Over the continent of Europe the mean temperature was slightly above the normal, except in Spain, where it averaged about 2° below. In British India the mean temperature was above the normal; at Zi-Ka-Wei, China, it was somewhat below, while at Tokio, Japan, it was slightly above, the normal.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of November, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Nov. mean of 9 (1877–'85) years.	Nov., 1886.	Departure.	Nov. mean of 9 (1877–'85) years.	Nov., 1886.	Departure.
				°	°	°
Astrakhan, Russia	30.21	30.20	— 0.01	41.2	39.9	— 1.3
Archangel, Russia *	29.81	29.88	+ 0.07	21.1	22.5	+ 1.4
Athens, Greece	30.04	30.10	+ 0.06	63.3	62.6	— 0.7
Beirut, Turkey in Asia	29.99	30.01	+ 0.02	72.0	68.0	— 4.0
Barnaul, Siberia	30.34	30.35	+ 0.01	18.2	13.5	— 4.7
Bridgetown, Barbadoes		29.86			81.8	
Ekaterinburg, Russia	30.08	30.10	+ 0.02	21.9	19.2	— 2.7
Fort Napier, Natal, S. Africa	29.81	29.91	+ 0.10	76.6	74.2	— 2.4
Funchal, Madeira Islands	30.09	30.08	— 0.01	68.8	68.5	— 0.3
Gibraltar *	30.11	30.13	+ 0.02	63.8	60.4	— 3.4
Havana, Cuba, W. I.	29.98	30.06	+ 0.08	72.4	69.3	— 3.1
Malta, Mediterranean Sea		29.98		66.9	64.6	— 2.3
Melbourne, New South Wales	29.96	30.05	+ 0.09	57.2	59.1	+ 1.9
Mauritius, Indian Ocean	29.96	30.02	+ 0.06	77.4	76.5	— 0.9
Nassau, Bahamas, W. I.	30.01	30.08	+ 0.07	75.7	75.2	— 0.5
Nikolaievsk-on-the-Amoor, Asia		29.96		12.3	14.7	+ 2.4
Paramaribo, D. Guiana, S. A.	29.90	29.91	+ 0.01	81.2	87.3	+ 6.1
Ponta Delgada, Azores	30.11	30.23	+ 0.12	65.3	64.6	— 0.7
Sandwick Manse, Orkneys	29.73	29.73	normal.	43.0	46.4	+ 3.4
San Juan de Puerto Rico, W. I.	29.91	30.00	+ 0.09	78.7	77.9	— 0.8
Stykkisholm, Iceland	29.60	29.47	— 0.13	32.1	35.1	+ 3.0
Thorshavn, Färöe Islands	29.62	29.58	— 0.04	41.2	43.2	+ 2.0
Tiflis, Russia	30.20	30.19	— 0.01	54.1	51.4	— 2.7
Tokio, Japan	30.04	30.09	+ 0.05	48.0	48.3	+ 0.3
Yeniseisk, Siberia	30.34	30.44	+ 0.10	8.6	7.9	— 0.7
Zi-Ka-Wei, China	30.25	30.32	+ 0.07	50.8	50.0	— 0.8

* Mean for eight years only.

The following table shows the mean pressure and mean temperature for November, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the

means determined from observations taken during the last nine years:

Countries.	Mean pressure.			Mean temperature.		
	Nov. mean of 9 (1877-'85) years.	Nov., 1886.	Departure.	Nov. mean of 9 (1877-'85) years.	Nov., 1886.	Departure.
				°	°	°
Austro-Hungary	30.03	30.05	+ 0.02	44.3	46.9	+ 2.6
British Isles	29.86	29.90	+ 0.04	46.1	47.4	+ 1.3
Denmark	29.84	29.87	+ 0.03	40.9	45.0	+ 4.1
France	30.00	30.04	+ 0.04	49.2	49.9	+ 0.7
Germany	29.96	30.01	+ 0.05	41.9	44.5	+ 2.6
India	29.95	29.88	— 0.07	75.2	77.2	+ 2.0
Italy	29.99	30.02	+ 0.03	55.8	55.9	+ 0.1
Norway	29.77	29.73	— 0.04	39.4	40.5	— 1.1
Russia	30.03	30.05	+ 0.02	35.8	38.8	+ 3.0
Spain*	30.06	30.05	— 0.01	57.3	55.3	— 2.0
Sweden	29.81	29.85	+ 0.04	30.9	38.6	+ 7.7

* Means for eight years only.

In the United States westerly winds prevailed in the Lake region; in the middle Atlantic states and Missouri Valley they were from the northwest; in the south Atlantic states from west or northwest, and in other portions of the country they were variable. Over the north Atlantic Ocean the prevailing wind-directions were governed by the areas of high and low mean pressure which appear upon the monthly mean chart. Over the British Isles south to west winds prevailed; over Scandinavia, central, and west-central Europe the winds were mostly southerly, while over southern and eastern Europe they were variable.

In the United States the precipitation was very small on the Pacific slope and in the south Atlantic and Gulf states; elsewhere the departures from the normal were slight. In Canada the rainfall differed slightly from the average. In the British Isles the rainfall was larger in the southwest and south, and also at some northern stations, but defective over the midland counties as a whole.

TRACKS OF AREAS OF LOW PRESSURE FOR NOVEMBER, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during November, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of forty areas of low pressure are shown, of which fourteen are traced over the North American continent; thirteen over the north Atlantic Ocean; six over Europe, and seven off the eastern coast of Asia or over the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of November during the last fourteen years is 11.7, or 2.3 less than the number traced for November, 1886. The more important of these storms are described in detail in the MONTHLY WEATHER REVIEW for November, 1886, under the heading "North Atlantic storms."

Of the areas of low pressure which appeared over the North American continent, seven moved eastward or southeastward from the Saskatchewan Valley, one of which was a continuation of a storm which appeared over the Pacific Ocean; one is traced southeast from Vancouver Island; four developed over the southern plateau, and two first appeared south of the lower lake region. The severest of these storms was number vii.

Of the thirteen depressions traced over the north Atlantic Ocean, five were continuations of areas of low pressure which appeared over the American continent. The storms were rather evenly distributed throughout the month, and during the first fifteen days were very severe. But one depression traversed the ocean.

Of the depressions charted over Europe but one, number xxix, advanced into the interior of the continent; four moved eastward over northern Scandinavia; two passed southeast over southern Scandinavia, and three, numbered as ocean storms, are traced over the British Isles. The depressions were, as a rule, attended by disturbances of pronounced strength, and the lowest barometric pressure of the month was reported during the presence of depression number xxxiii over northern Scandinavia on the 30th, when minima ranging to 28.74 (730.0) at Haparanda, Sweden, were shown. From the 20th to the 22d, inclusive, an area of low pressure was central over the Mediterranean Sea off southern Italy.

Of the depressions traced off the eastern coast of Asia and over the north Pacific Ocean the most important was number xxxvi, which advanced northward from the Philippine Islands to Formosa, and thence north of east off the south coast of the Japanese Islands, from the 16th to the 18th, inclusive; two depressions appeared over the Sea of Okhotsk, and four moved eastward over the North American continent in the vicinity of Sitka, Alaska. The depressions were unattended by noteworthy features.

SPECIAL NOTES.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

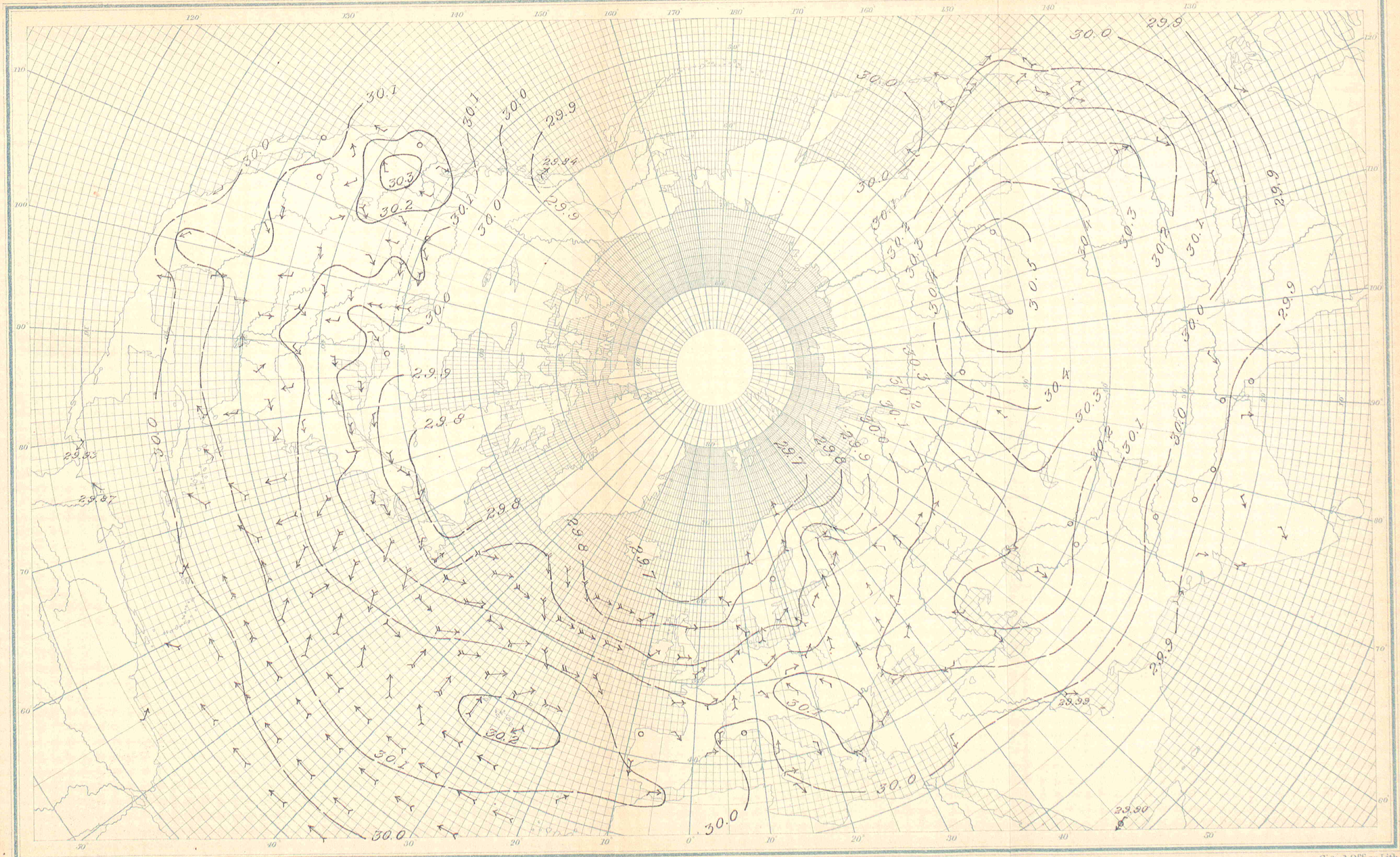
International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

Form No. 106 R---1887.

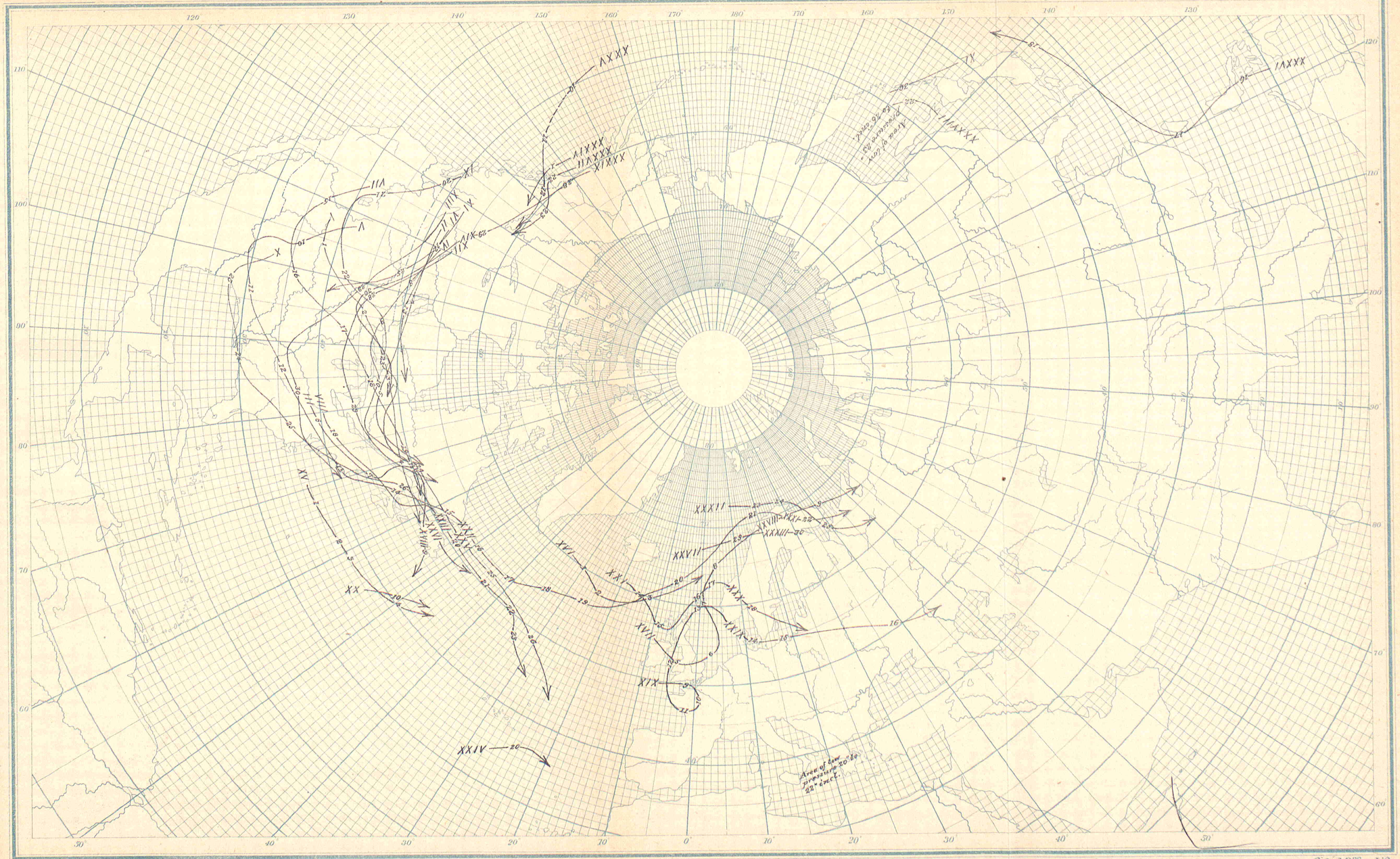
International Chart II. November, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

Form No. 106 R---1887.

International Chart III. November, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November, 1886—Continued.

Name of vessel.	Captain.
MISCELLANEOUS—Continued.	
Br. Fitzroy	Capt. Henry Gibb.
Hudson	Matthew Wundless.
Ger. s. s. India	M. Hulsen.
Span. Hugo	A. de Mugica.
Br. s. s. Lord Landsowne	C. H. Baskfill.
Am. Lorenzo D. Baker	W. F. Wiley.
Nor. Ludvig Holbeeg	N. Houge.
Br. Madrid	M. Garson.
Matthew Bedlington	Thos Kirby.
Span. Navarro	S. de Aldecocea.
Br. Ocean Prince	W. J. Milburn.
Br. Paumbau	Ch. Offi. Geo. Scott
Peconic	Capt. G. Evans.
Span. Manuel L. Villaverde	Claudio Perales.
Br. Rover	Jas. Mansfield.
Salisbury	W. Durham.
Saint Ronans	H. Campbell.
Span. Serra	F. de Luzarraga.
Br. s. s. Stag	Jas. Adams.
Straits of Gibraltar	Ch. Offi. W. T. Tomlinson.
Swed. Victoria	Capt. J. A. Windquest.
Br. Viola	L. Murray.
N. Y. HERALD WEATHER SERVICE.	
Am. s. s. Acapulco	Coye.
Br. Alene	Siders.
Athos	Low.
Barraconta	H. Bermpohl.
Bassano	W. Rea.
Buffalo	J. H. Malet.
Am. Caracas	W. M. Hopkins.
Chalmette	J. B. Perry.
Br. City of Chester	A. Lewis.
City of Richmond	A. Redford.
Am. City of Para	L. F. Dexter.
City of Puebla	Deakin.
Comal	J. Bolger.
Br. El Monte	J. W. Hawthorne.
Am. El Paso	H. S. Quick.
Br. Furnesia	Hedderwick.
Am. Lampassas	M. B. Crowell.
Dtch. Leerdam	Slirendregt.
Br. Landaff City	T. H. Gore.
Am. Lone Star	Mason.
Br. Martello	F. E. Jenkins.
Br. Miranda	E. Bendon.
Am. Morgan City	J. B. Percy.
Br. Muriel	G. S. Locke.
Am. Newport	W. G. Shackford.
Niagara	G. V. Bemis.
Br. Portia	H. Dawson.
Republic	P. J. Irving.
Am. Rio Grande	J. F. Lewis.
Br. Sirius	W. H. Stapledon.
Spain	W. A. Griffiths.
Umbria	W. McMickan.
Am. Valencia	Woodrick.
Dtch. W. A. Scholten	G. J. Vis.
SAILING VESSELS.	
Am. bg. Abbie Clifford	D. W. Storer.
Br. bk. Abyssinian	John Hughes.
Br. bg. Achsah	A. M. Shaw.
Nor. bg. Adria	J. H. Welden.
It. bk. Angelica Accame	Vincenzo Niggi.
It. bk. Agostino Rombo	V. Basso.
Am. schr. Anna B. Hutcheson	Daniel Zeluff.
Ger. bk. Arnold von Bippen	T. Möller.
Nor. sp. B. D. Metcalf	E. P. Larsen.
Am. schr. Benjamin Hale	John Hull.
Am. bgt. Boston Marine	H. V. Porter.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Br. sp. British Isles	Capt. G. Southcott.
Ger. sp. Carl	T. Hashagen.
Br sp. Cabul	John Rome.
Am. bk. Carib	Ch. Offi. A. P. Goodman.
schr. C. B. Church	Capt. N. A. Anderson.
Am. schr. Comet	W. H. Aldrich.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
Am. bk. Chas. R. Lewis	A. Montgomery.
Am. bk. Crescent	W. P. Gibbs.
Br. sp. Cyromene	Ch. Off. Jas. Masson.
Ger. sp. Dakota	Capt. N. E. Schaffer.
Am. bk. Don Justo	E. Orcutt.
Am. bg. Daisy Boynton	C. Harding.
Am. schr. Edward R. Emerson	A. H. Child.
Am. bk. Eliza Barss	Henry H. Hollis
Aus. bk. Errante	A. G. Nicolich.
Am. sp. E. B. Sutton	C. O. Carter.
Ger. bk. Emilie	W. Siems.
It. bk. Fratelli Laurin	Lodovico Laurin.
Ger. sp. Frederike	Th. Tiedken.
Br. sp. F. B. Taylor	J. A. Tilley.
Am. bk. Forest	C. F. Cunningham.
Ger. sp. Georg	G. A. Scholtz.
Am. bk. General Fairchild	Mate H. R. Coombs.
Nor. bk. Haavund	Capt. C. Ullenaess.
Am. Harriet S. Jackson	W. T Bacon.
Ger. sp. Hedwig	Th. Minssen.
Dtch bk. Helena	T. T. Verbeet.
Am. Harvard	Samuel Pray.
Am. sp. Henry Villard	F. B. Perkins.
Am. Hoogly	W. P. Lewis.
Nor. bk. Hermon	O. Olsen.
Br. bk. Iodine	Adam Smith.
Am. bkt. Josephine	Chas. Brown.
schr. John S. Wood	Wm. A. Bernard.
bk. José E. More	Asmus Lenhard.
schr. James Slater	James L. Tooker.
bk. Jane Adeline	G. W. Cates.
Ger. sp. J. W. Wendt	L. Lass.
Am. bkt. John J. Marsh	F. P. Whittier.
Ger. sp. J. W Gildermeister	A. Lehmann.
Am. schr. José Olaverri	Seth C. Avery.
Ger. bk. Kepler	G. Atken.
Br. bg. Kenilworth	P. Dolg.
Nor. sp. Komandor Svend Foyn	Johan Bryde.
Ger. bk. Leocadia	John Stohff.
Am. bkt. Levanter	Geo. F. Gerry.
Am. bg. L. & W. Armstrong	A. Alexander.
Br. bg. Lilian	H. F. Schive.
Am. bkt. Lizzie Carter	C. J. Carter
Br. Linnet	Ch. Offi. W. A. Hayward.
Am. schr. Maggie Abbott	Capt. D. C. McIntosh.
Am. bg. Mary Fink	D. F. Darrah.
Br. bk. Minnie G. Whitney	J. D. Foley.
Am. Mohican	B. F. Berry.
Nor. bk. Moland	T. Omundsen.
Am. bg. Manson	E. T. Page.
schr. N. Hand	F. G. Phiffs.
bkt. Nellie M. Slade	J. A. Gould.
Ger. sp. Otto	W. Langen.
Am. schr. Pearl	Anderson.
Am. bkt. Pearl	John B. Zimmer.
Ger. sp. Palme	Wm. Bahls.
bk. Pillau	G. Gerlach.
Nor bk. Qvoss	Gunder Olsen.
Ger. bk. Richard	A. von Seggern.
Br. bkt. Rosebud	John Collie.
Br. bk. River Ganges	T. Nailo.
It. Rosina	Giocomo Tomaselli.
Am. bk Ralph M. Hayward	J. Baxter.
Ger. bk. Shakspere	Carl Muller.
Br. sp. Stephen D. Horton	J. Spicer.
Am. Sachem	J. C. Bartlett.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Am. bg. Teneriffe	Capt. W. S. Richardson.
It. bk, Teresa Accame	Gerolamo Boetto.
Br. Tiber	D. Keiff.
Nor. bk. Tros	S. Brager.
Am. Thomas A. Goddard	A. C. Sears.
Ger. sp. Union	H Fokken.
Ger. bk. Victoria	B. F. Rehm.
Am. bg. Water Witch	Max Knaebel.
Am. schr. W. H. Fredson	A J. Biddle.
Am. sp. Light-ship No. 37	Andrew Jackson.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Essex	Theo. F. Jewell.
U. S. S. Galena	C. W. Chester.
U. S. S. Hartford	J. H. Gillis.
U. S. S. Iroquois	J. C. Watson.
U. S. S. Jamestown	C. J. Nain.
U. S. S. Juniata	G. T. Davis.
U. S. S. Kearsarge	C. D. Sigsbee.
U. S. S. Lancaster	S. L. Breese.
U. S. S. Marion	Merrill Miller.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	S. H. Baker.
U. S. S. Mohican	B. F. Day.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlonsey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	Geo. Dewey
U. S. S. Pinta	
U. S. S. Portsmouth	C. V. Gridley.
U. S. S. Quinnebang	G. W. Coffin.
U. S. S. Ranger	F. A. Cook.
U. S. S. Saratoga	E. R. Moore.
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Vandalia	H. L. Howison.
BRITISH NAVAL.	
H. M. S. Alexandra	J. Fellowes, C. B.
H. M. S. Audacious	R. H. Harris.
H. M. S. Active	Com. A. H. Markham.
H. M. S. Cleopatra	Capt. L. C. Keppel.
H. M. S. Champion	A. T. Powlett.
H. M. S. Dreadnought	H. F. Stephenson.
H. M. S. Dart	A. M. Fields.
H. M. S. Egeria	P. Aldrich.
H. M. S. Himalaya	J. G. Stokes.
H. M. S. Icarus	W. M. Annesley.
H. M. S. Myrmidon	R. F. Hoskyn
H. M. S. Midge	H. J. Robilliard.
H. M. S. Nelson	A. Lake.
H. M. S. Osborne (Royal Yacht)	Hon. A. Curzon-Howe.
H. M. S. Orion	Capt. T. Harvey-Royse.
H. M. S Penguin	Lieut. Davenport, obs'vr.
H. M. S. Raleigh	Capt. A. K. Wilson, V. C.
H. M. S. Rambler	W. U. Moore.
H. M. S. Superb	C. E. Buckle.
H. M. S. Satellite	A. H. Alington.
H. M. S. Turquoise	R. Woodward, C. B.
PORTUGUESE NAVAL.	
H. P. M. S. Alf. de Albuquerque	C. S. de Andrade.
H. P. M. S. Yaire	
DUTCH.	
H. D. M. S. Nederlanden	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of November. 1886.

Stations.	Observers
AUSTRALIAN.	
Adelaide, South Australia	C. L. Wragge.
Hobart Town, Tasmania	Com. J. Shortt, R.N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	B. Juelg, Director.
Szathmar	Aloysius Daubner, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs.	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I.	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F.R.M.S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swanbister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series.	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S.J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C.E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Saugeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N.
Sub-series.	
Saint Johns, N. F	J. Higgins.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue, Directors.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Giraud, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissade, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
Nancy, Normal School	M. Hasse, Director.
Nantes, Observatory	M. Larocque, Director.
Nice, Normal School	M. Cantier.
Perpignan, Observatory	Dr. Fines, Director.
Pic-du-Midi, Summit	M. Vaussenat, Director.
Privas, Normal School	M. Curely, Director.
Puy de Dôme Obs'y, Summit	M. Alluard, Director.
Rochefort, Naval Observatory	Lt. E. Decante, Director.
Roche-sur-Yon, N. School	M. Brotier, Director.
Rodez, Normal School	M. Seger, Director.
Rouen, Normal School	M. Vieillot, Director.
Saint Brieuc	M. Richard.
Saint Maur, Observatory	M. Renou, Director.
Toulouse, Observatory	M. Baillaud, Director.
Tours	M. Letellier.
Sub-series.	
St. Martin du Hinx	M. Carlier, Director.
GERMAN.	
Ansbach	Prof. Jlidt.
Bamberg	Prof. Dr. Hoh.
Berlin	Meteorological Institute.
Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Issermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
ITALIAN.	
Udine	Prof. Giovanni Clodig.
Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Leece	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
ITALIAN SUB-SERIES	
Stelvio	Prof. P. F. Denza.
Valdobbia	Prof. P. F. Denza.
JAPANESE.	
Akita	S. Hattori.
Awomori	K. Ogawa.
Fushiki	T. Enas.
Gifu	R. Ikuchi and S. Yaraki.
Hakodate	T. Wakayama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Itsuhara	Kikukawa.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	K. Yamasaki and M Chin.
Nemuro	M. Itabashi.
Niigata	M. Morita and C. Tomikawa.
Nobiru	R. Zuchi and T. Saito.
Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	R. Tomitokoro.
Supporo	K. Kugly.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	C. Carmina.
Mexico	The Staff.
Zacatecas	J. A. Bonilla, M. E.
NETHERLANDS.	
Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia	Dr. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjøsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sseliwerstow.
Astrakan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacmsipeyz.
Kieff	Observatory.
Korostishev	
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the Amoor	Schohberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory
Samarkand	Dresch.
Sevastopol	Colonobr.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Troitskosavsk	
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	T. E. Mieg.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
Sub-series.	
Havana, Cuba	Benito Viñes, S. J.
Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director
UNITED STATES SUB-SERIES.	
Bogota	Joaquin Gomez Otero.
Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell

WAR DEPARTMENT.
OFFICE OF THE CHIEF SIGNAL OFFICER OF THE ARMY OF THE UNITED STATES.

SUMMARY AND REVIEW

OF

INTERNATIONAL METEOROLOGICAL OBSERVATIONS

FOR THE MONTH OF DECEMBER, 1886.

PUBLISHED BY ORDER OF THE SECRETARY OF WAR.

A. W. GREELY,
BRIGADIER GENERAL, CHIEF SIGNAL OFFICER OF THE ARMY.

PRINTED FOR EXCHANGE WITH CO-OPERATING OBSERVERS.

WASHINGTON, D. C
FEBRUARY, 1888.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December 1886.

Name of vessel.	Captain.
ALLAN LINE.	
Br. s. s. Grecian	Capt. C. E. Le Gallais.
Manitoban	W. Ambry.
Nova Scotian	R. H. Hughes.
Sardinian	W. H. Smith.
Scandinavian	John Park.
AMERICAN LINE.	
Br. s. s. British King	John Kelly.
British Prince	Samuel Nowell.
British Princess	E. H. Freeth.
Indiana	R. W. Sargent.
Lord Clive	P. Urquhart.
ANCHOR LINE.	
Br. s. s. Australia	Alex. McRitchie.
Bolivia	J. J. Small.
British Crown	Archibald Smith.
British Queen	B. Wills.
Circassia	A. Campbell.
Columbia	Robert T. Garvie.
Devonia	Hugh Young.
Dorian	J. McKeague.
Ethiopia	John Wilson.
Italia	Thos. Craig.
Olympia	Isaac Swain.
ARROW LINE.	
Br. s. s. Monte Rosa	C. Thomas.
ATLAS LINE.	
Br. s. s. Ailsa	J. W. Samson.
Andes	T. M. McKnight.
ANGLO-AUSTRALIAN STEAMSHIP CO.	
Br. s. s. Port Phillip	Geo. Dulling.
BOOTH'S S. S. Co. (limited).	
Br. s. s. Augustine	R. Harwood.
Bernard	Ch. Offi. S Richards.
Clement	Capt. Thomas Burley.
Jerome	Benj. Crimp.
BRISTOL CITY LINE.	
Br. s. s. Brooklyn City	W. Fitt.
Llandaff City	T. H. Gore.
Wells City	T. L. Weiss.
CLYDE STEAMSHIP COMPANY.	
Am. s. s. Yemassee	S. C. Platt.
CROMWELL LINE.	
Am. s. s. Louisiana	E. V. Gager.
CUNARD LINE.	
Br. s. s. Aurania	W. H. P. Hains.
Catalonia	Alex. McKay.
Cephalonia	Henry Walker.
Gallia	M. Murphy.
Samaria	T. Roberts.
Servia	H. McKay.
Umbria	W. McMickan.
EDWARD CARE'S S. S. LINE.	
Ger. s. s. Amalfi	Julius Bahr.
Australia	G. Franck.
Polaria	Johannes Schade.
Polynesia	A. Kuhn.
Taormina	H. M. Franck.
FURNESS LINE.	
Br. s. s. Borderer	F. Manley.
Durham City	M. P. Lund.
Ripon City	J. Jenkins.
Stockholm City	K. Doyle.
GENERAL TRANS-ATLANTIC S.S.Co.	
Fr. s. s. La Bourgogne	Franguel.
La Bretagne	M. de Jousselin.
La Champagne	E. Traub.
La Gascogne	Santelli.
La Normandie	G. de Kersabiec.
GREAT WESTERN STEAMSHIP LINE.	
Br. s. s. Dorset	Ch. Offi. E. Crossmann.
Warwick	Capt. W. Janes.
GUION LINE.	
Br. s. s. Alaska	Geo. S. Murray.
Arizona	S. Brooks.
Nevada	John Douglas.
Wyoming	C. L. Rigby.
HAMBURG-AMERICAN LINE.	
Ger. s. s. Bavaria	G. Ressing.
Bohemia	R. Kurlowa.

Name of vessel.	Captain.
HAMBURG-AMERICAN LINE—Con.	
Ger. s. s. Gellert	Capt. W. Kühlewein.
Gothia	C. Kordell.
Hungaria	H. Leithauser.
Moravia	O. Pezoldt.
Rhaetia	H. Vogelgesang.
Rugia	A. Albers.
Slavonia	H. Schmidt.
Wieland	C. Hebich.
Westphalia	
HARRISON LINE.	
Br. s. s. Counsellor	Wm. Lang.
INMAN LINE.	
Br. s. s. City of Berlin	Francis S. Land.
City of Chester	A. Lewis.
City of Chicago	Fred. Watkins.
JOHNSTON LINE.	
Br. s. s. Nessmore	John Inch.
LAMPORT & HOLT'S STEAMSHIP CO.	
Br. s. s. Bessel	C. J. Watson.
Herschel	G. Braithwaite.
Mozart	Thos. Sawyer
Nasmyth	T. T. Farrell.
Olbers	Jas Clark.
Thales	Jas. Glasspoole.
LEYLAND LINE.	
Br. s. s. Bavarian	R. Leask.
Bulgarian	E. Parry.
Istrian	T. H. Fox.
Virginian	M. Fitt.
MALLORY LINE.	
Am. s. s. Alamo	S. Risk.
Colorado	Jas. Daniels.
Lampassas	M. B. Crowell.
Rio Grande	J. F. Lewis.
San Marcos	A. C. Burrows.
MEDITERRANEAN & NEW YORK STEAMSHIP COMPANY.	
Br. s. s. Pontiac	R. Blyth.
MISSISSIPPI & DOMINION S. S. Co.	
Br. s. s. Ontario	W. P. Couch.
Sarnia	Joseph Gibson.
Toronto	Jas. McAuley.
MONARCH LINE.	
Br. s. s. Assyrian Monarch	John Sparks.
Lydian Monarch	T. C. Huggett.
Persian Monarch	John Harrison.
MORGAN LINE.	
Am. s. s. Eureka	R. B. Quick.
NATIONAL LINE.	
Br. s. s. Canada	Thos. Foote.
Denmark	R. S. Rigby.
Egypt	J. Sumner.
England	T. P. Heeley.
Erin	J. Robinson.
France	A. D. Hadley.
Greece	A. J. Jeffrey.
Holland	Wm. Tyson.
Italy	W. Pearce.
Spain	W. A. Griffiths.
NAVIGAZIONE GENERALE ITALIANA.	
It. s. s. Indipendente	P. Pirandello.
Polcevera	Brofferio.
NEW YORK, HAVANA AND MEXICAN MAIL S. S. Co.	
Am. s. s. City of Alexandria	J. W. Reynolds.
City of Washington	W. M. Rittig.
NORTH GERMAN LLOYD S. S. Co.	
Ger. s. s. Aller	H. Christoffers.
America	H. Bodeker.
Kider	H. Helmers.
Ems	T. Jungst.
Fulda	R. Ringk.
Hermann	A. Kohlmann.
Hohenstaufen	H. Winter.
Neckar	H. Baur.
Saale	H. Reichter.
Werra	Richard Bussins.
Weser	
OCCIDENTAL & ORIENTAL S. S. Co.	
Br. s. s. Gallic	W. G. Pérne.
Oceanic	Jas. Thomson.

Name of vessel.	Captain.
OCEAN STEAMSHIP COMPANY.	
Am. s. s. Chattahoochee	Capt. J. W. Catherine.
OCEANIC STEAMSHIP COMPANY.	
Am. s. s. Mariposa	H. M. Hayward.
OLD DOMINION STEAMSHIP CO.	
Am. s. s. Manhattan	Frank Stevens.
OREGON RAILWAY & NAVIGATION COMPANY.	
Am. s. s. Columbia	Fred Bolles.
Oregon	E. Polemann.
PACIFIC COAST STEAMSHIP CO.	
Am. s. s. City of Chester	J. Wallace.
Orizaba	John N. Ingalls.
PACIFIC MAIL STEAMSHIP CO.	
Am. s. s. Acapulco	C. S. Coye.
City of New York	Robt. R. Searle.
City of Para	L. Dexter.
City of Peking	H. C. Dearborn.
City of Rio de Janeiro	Wm. B. Cobb.
City of Sydney	Daniel Friele.
Colon	Chas. C. Lima.
San Blas	T. Chapman.
San José	A. D. Austin.
QUEBEC STEAMSHIP COMPANY.	
Br. s. s. Muriel	G. S. Locke.
Orinoco	J. S. Garvin.
Trinidad	W. J. Fraser.
RED "D" LINE.	
Am. s. s. Philadelphia	Sam. Hess.
Valencia	W. Woodrick.
RED STAR LINE.	
Belg. s. s. Belgenland	W. A. Beynon.
Nederland	A. J. Griffin.
Noordland	H. E. Nickels.
Pennland	Rud. Weyer.
Rhynland	J. C. Jamison.
Waesland	J. Ueberweg.
Westernland	Com. W. G. Randle.
ROTTERDAM LINE.	
Dtch s. s. Edam	Capt. J. H. Taat.
Leerdam	P. Stierendregt.
P. Caland	T. H. Bonjer.
Schiedam	A. Potjer.
Zaandam	H. v. d. Zee.
ROYAL MAIL STEAMSHIP CO.	
Am. s. s. City of Dallas	C. W. Reed.
STATE LINE.	
Br. s. s. State of Georgia	G. Moodie.
State of Pennsylvania	A. J. A. Mann.
State of Nebraska	A. G. Brace.
State of Nevada	J. A. Stewart.
THINGVALLA LINE.	
Dan. s. s. Geiser	C. W. Moeller.
Hekla	A. G. Thomsen.
Island	W. Skjodt.
Thingvalla	S. T. H. Laub.
TWIN SCREW LINE.	
Br. s. s. Tower Hill	F. Archer, R.N.R.
TYNE AND WEAR STEAMSHIP CO.	
Br. s. s. City of Newcastle	R. Townsend.
WARREN LINE.	
Br. s. s. Iowa	Samuel Walters.
Kansas	W. Gleig.
Norseman	E. Maddox.
WATTS, WARD LINE.	
Br. s. s. Camden	
Chiswick	
WHITE CROSS LINE.	
Belg. s. s. De Reuter	J. J. Brarens.
Jan Breydel	H. Meyer.
Pieter de Connick	E. Smit.
WHITE STAR LINE.	
Br. s. s. Adriatic	H. Parnell.
Britannic	H. Perry.
Germanic	Benj. Gleadell.

SUMMARY AND REVIEW OF INTERNATIONAL METEOROLOGICAL OBSERVATIONS, DECEMBER, 1886.

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1886.																				Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean temperature.		Mean Rel. Humidity.	Wind.															
						Actual		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.		Inch.	Mill.
AUSTRALIAN.	° ′	° ′																										
Adelaide	S. 34 57	E. 138 35	9.14 p.m.	140	43	29.82	757 4	29.92	760.0	66.8	19.3	50	.....	.....	2	7	10	8	2	1	1	8159	13130	3	0.62	15.8
Hobart Town	S. 42 53	E. 147 20	9.00 p.m.	190	58	29.73	755.1	29.94	760.5	56.2	13.4	85	3	3	2	7	7	5	2	.....	2	325	523	7	0.75	19.0
Melbourne	S. 37 50	E. 144 58	9.40 p.m.	91	28	29.93	760.2	30.01	762.2	61.0	16.1	75	2	.....	1	6	7	12	2	1	.....	.....	.....	6	2.53	64.3
AUSTRIAN.																												
Agram	N. 45 48	E. 15 53	1.04 p.m.	535	163	29.25	743.0	29.88	758.9	41.7	5.4	76	1	1	2	9	1	2	2	13	.....	.....	.....	8	2.93	74.4
Cracow	N. 50 04	E. 20 00	1.20 p.m.	722	220	29.00	736.5	29.79	756.7	36.7	2.6	81	2	2	8	6	3	2	3	5	.....	.....	.....	9	1.76	44.7
Eperies	N. 48 58	E. 21 15	1.25 p.m.	853	260	28.92	734.5	29.82	757.4	34.9	1.6	87	1	.....	.....	.....	14	.....	.....	.....	16	.....	.....	9	3.62	92.0
Gratz	N. 47 04	E. 15 28	1.02 p.m.	1171	357	28.56	725.3	29.84	757.9	37.8	3.2	78	.....	3	5	5	11	1	.....	3	3	.....	.....	6	4.37	111.1
Kremsmunster	N. 48 03	E. 14 08	0.57 p.m.	1260	384	28.95	735.2	29.84	757.9	34.5	1.4	90	1	.....	9	6	.....	.....	1	3	11	.....	.....	8	4.75	120.6
Lemberg	N. 49 50	E. 24 00	1.36 p.m.	978	298	28.80	731.6	29.83	757.7	37.8	3.2	80	5	3	1	7	9	3	3	.....	.....	.....	.....	7	2.10	53.4
Pola	N. 44 52	E. 13 51	0.55 p.m.	105	32	29.71	754.5	29.82	757.4	50.4	10.2	75	2	2	6	4	5	4	2	2	4	.....	.....	6	7.44	189.0
Szathmar	N. 47 46	E. 22 53	1.32 p.m.	430	131	29.42	747.2	29.90	759.4	41.4	5.2	80	3	3	6	4	3	10	1	1	.....	.....	.....	8	3.19	81.1
Szegedin	N. 46 15	E. 20 10	1.21 p.m.	315	96	29.51	749.6	29.84	757.9	40.5	*a*4.7	*86a*	2	5	4	6	8	3	1	1	1	.....	.....	7	2.74	69.7
Trieste	N. 45 39	E. 13 46	0.55 p.m.	85	26	29.76	755.8	29.85	758.3	47.5	*b*8.6	69	.....	3	.....	5	2	4	4	5	8	.....	.....	8	7.50	190.5
Vienna	N. 48 12	E. 16 22	1.05 p.m.	663	202	29.10	739.0	29.85	758.2	36.3	2.4	80	2	5	11	1	1	4	1	.....	6	.....	.....	8	2.87	72.8
BRAZILIAN.																												
Rio de Janeiro	S. 22 54	W. 43 10	9.07 a.m.	217	66	29.74	755.4	29.94	760.5	75.9	24.4	78	2	8	.....	.....	.....	8	1	4	8	.....	.....	8	8.70	221.0
BRITISH.																												
Aberdeen	N. 57 10	W. 2 06	11.52 a.m.	89	27	29.42	747.3	29.55	750.6	34.4	1.3	75	1	4	14	4	6	2	.....	.....	.....	10266	16521	6	4.36	110.7
Bidston	N. 53 24	W. 3 04	11.48 a.m.	197	60	29.38	746.2	29.62	752.3	39.5	4.2	78	5	3	10	5	3	2	2	1	.....	.....	.....	5	.....	.....
Bradford	N. 53 48	W. 1 47	11.53 a.m.	366	112	29.21	741.9	29.62	752.3	38.0	3.3	81	6	10	5	4	3	.....	1	2	.....	.....	.....	8	4.33	110.0
Bridgetown	N. 13 04	W. 59 37	8.02 a.m.	28	9	29.90	759.4	29.86	758.4	81.9	27.7	74	.....	.....	.....	.....	.....	1	3	27	.....	.....	.....	3	.....	.....
Chatham	N. 51 25	E. 0 33	0.02 p.m.	160	49	29.59	751.6	29.78	756.4	39.2	4.0	84	2	4	3	1	2	1	.....	18	.....	.....	.....	6	.....	.....
Falmouth	N. 50 09	W. 5 04	11.40 a.m.	183	56	29.58	751.3	29.79	756.7	43.8	6.6	78	3	9	7	6	2	1	2	1	.....	.....	.....	7	.....	.....
Fort Napier	S. 30	E. 31	2.04 p.m.	2294	699	27.61	701 3	29.87	758.7	75.7	24.3	56	3	.....	1	1	3	6	8	9	.....	.....	.....	6	.....	.....
Galway*a*	N. 53 15	W. 9 03	11.24 a.m.	32	10	29.63	752.6	29.68	753.9	40.1	4.5	87	4	1	5	13	3	.....	3	1	.....	.....	.....	6	3.22	81.8
Gibraltar	N. 36 09	W. 5 21	11.39 a.m.	50	15	30.00	762.0	30.12	765.0	59.7	15.4	79	.....	13	8	.....	.....	.....	4	5	1	.....	.....	4	.....	.....
Greenwich	N. 51 29	0 00	12 m.	159	48	29.53	750.0	29.72	754.9	38.5	3.6	81	3	4	5	13	3	.....	1	2	.....	.....	.....	7	.....	.....
Guernsey	N. 49 27	W. 2 41	11.49 a.m.	275	84	29.31	744.5	29.81	757.2	44.9	7.2	78	4	5	9	5	2	3	2	1	.....	9535	15345	7	6.55	166.4
Kew	N. 51 28	W. 0 19	11.59 a.m.	34	10	29.68	753.9	29.74	755.4	38.6	3.7	81	2	6	6	12	3	.....	1	.....	1	.....	.....	6	.....	.....
Leicester	N. 52 39	W. 1 08	11.55 a.m.	245	75	29.40	746.7	29.68	753.9	37.5	3.1	90	2	5	5	13	1	2	.....	.....	3	.....	.....	7	.....	.....
Malta	N. 36 00	E. 14 30	0.58 p.m.	70	21	29.90	759.4	29.96	761.0	58.6	3.7	76	.....	17	3	7	3	.....	.....	1	.....	.....	.....	5	.....	.....
Nassau	N. 25 04	W. 77 22	6.51 a.m.	44	13	30.08	764.0	30.08	764.0	71.2	21.8	78	4	5	2	1	1	5	.....	10	3	.....	.....	7	.....	.....
Oxford	N. 51 46	W. 1 17	11.55 a.m.	210	64	29.47	748.5	29.72	754.9	38.3	3.5	81	3	4	5	12	2	2	.....	.....	3	.....	.....	6	.....	.....
Plymouth	N. 50 22	W. 4 10	11.43 a.m.	69	21	29.66	753.4	29.75	755.6	42.6	5.9	88	1	10	5	3	2	1	2	3	4	.....	.....	6	.....	.....
Swanbister	N. 58 55	W. 3 05	11.46 a.m.	72	22	29.38	746.2	29.50	749.3	36.8	2.7	81	6	9	6	2	4	1	1	2	.....	.....	.....	7	.....	.....
Scutari Cemet'y	N. 41 00	E. 29 03	1.56 p.m.	60	18	29.89*a*	759.2	29.95*a*	760.7	56.4	13.6	64	2	.....	.....	13	5	7	.....	1	3	.....	.....	6	.....	.....
Stonyhurst	N. 53 51	W. 2 28	11.50 a.m.	361	110	.....	.....	29.65	753.1	36.5	2.5	82	4	6	9	5	3	.....	1	3	.....	.....	.....	6	6.59	167.4
Valencia	N. 51 55	W. 10 18	11.19 a.m.	23	7	29.75	755.6	29.79	756.7	43.5	6.4	83	3	5	6	8	2	2	.....	5	.....	.....	.....	7	.....	.....
Sub-series.																												
Gozo	N. 36 01	E. 14 16	0.57 p.m.	364	111	29.67	753.6	30.04	763.0	58.0	14.5	70	.....	15	8	5	.....	.....	1	1	1	6201	9979	5	3.64	92.4
CANADIAN.																												
Bathurst*b*	N. 47 39	W. 65 42	7.37 a.m.	35	11	29.96	761.0	30.01	762.2	10.9	—11.7	.....	1	2	7	6	.....	1	1	.....	11	.....	.....	7	4.44	112.8
Bird Rocks	N. 47 50	W. 61 10	7.56 a.m.	.....	.....	29.85	758.2	29.98	761.5	25.4	— 3.7	86	8	5	8	1	4	2	2	1	.....	.....	.....	8	2.72	69.1
Colgar y	N. 50 55	W. 114 04	4.24 a.m.	?	?	26.35	669.3	30.20	767.1	10.9	—11.7	81	.....	.....	.....	4	.....	.....	.....	1	26	.....	.....	4	1.55	39.4
Chatham	N. 47 03	W. 65 29	7.38 a.m.	56	17	29.97	761.2	30.04	763.0	9.3	—12.6	96	4	4	12	5	1	.....	1	1	3	2921	4701	6	4.43	112.5
Cornwall	N. 45 01	W. 74 43	7.01 a.m.	175	53	29.84	757.9	30.07	763.8	11.2	—11.6	93	5	.....	15	.....	.....	.....	4	3	4	.....	.....	8	1.75	44.4
Dalhousie	N. 48 04	W. 66 22	7.35 a.m.	45	14	29.93	760.2	29.99	761.7	9.2	—12.7	.....	.....	1	10	1	.....	1	1	.....	16	.....	.....	.....	3.31	84.1
Father Point	N. 48 31	W. 68 28	7.26 a.m.	20	6	29.99	761.7	30.02	762.5	11.2	—11.6	80	2	5	5	7	4	3	2	2	1	14078	22656	9	2.11	53.6
Fort Garry	N. 49 51	W. 97 07	5.32 a.m.	754	230	29.30	744.2	30.26	768.6	— 7.6	—22.0	97	6	10	2	3	4	5	.....	1	.....	7423	11946	4	0.39	9.9
Fredericton	N. 45 57	W. 66 38	7.33 a.m.	164	50	29.90	759.4	30.09	764.3	12.2	—11.0	87	11	7	1	2	.....	2	3	4	1	5258	8462	6	5.64	143.3
Grand Manan	N. 44 46	W. 66 45	7.33 a.m.	49	15	30.00	762.0	30.00	763.5	26.4	— 3.1	80	6	8	4	3	2	1	1	2	4	11286	18163	7	4.09	103.9
Granton	N. 43 12	W. 81 21	6.35 a.m.	1015	309	28.96	735.6	30.16	766.1	15.9	— 8.9	96	.....	2	6	2	1	.....	.....	1	19	3047	4904	7	2.62	66 5
Halifax	N. 44 39	W. 63 36	7.46 a.m.	122	37	29.92	760.0	30.06	763.5	27.6	— 2.4	88	5	5	10	1	3	.....	2	4	1	.....	.....	7	5.39	136.9
Hamilton	N. 43 16	W. 79 53	6.40 a.m.	372	113	29.75	755.6	30.19	766.8	21.0	— 6.1	77	1	.....	15	7	2	1	3	2	.....	.....	.....	7	1.03	41.4
Kingston	N. 44 14	W. 76 30	6.54 a.m.	307	94	29.75	755.6	30.11	764.8	16.1	— 8.8	87	2	6	3	4	2	2	.....	11	1	5697	9168	7	3.93	99.8
Little Glace Bay	N. 46 12	W. 59 58	8.00 a.m.	34	10	29.95	760.7	30.00	762.0	29.6	— 1.3	90	4	2	4	8	7	.....	4	2	.....	.....	.....	.....	.....	.....
London	N. 43 00	W. 81 15	6.35 a.m.	832	254	29.18	741.2	30.16	766.0	15.4	— 9.2	92	3	1	6	1	3	.....	2	1	14	3811	6133	7	4.57	116.1
Medicine Hat *b*	N. 50 01	W. 110 37	4.38 a.m.	2136	651	27.45	697.2	30.14	765.5	13.5	—10.3	80	6	2	3	3	1	.....	.....	1	13	3094	4979	6	0.28	7.1
Minnedosa	N. 50 13	W. 99 48	5.21 a.m.	1796	547	28.21	716.5	30.25	768.3	— 7.0	—21.7	95	1	3	8	4	.....	.....	1	.....	14	3782	6086	2	0.14	3.6
Montreal	N. 45 31	W. 73 33	7.06 a.m.	187	57	29.86	758.4	30.09	764.3	11.7	—11.3	85	3	.....	10	6	4	3	1	4	.....	.....	.....	8	3.67	93.2
Ottawa	N. 45 26	W. 75 41	6.57 a.m.	200	61	29.86	758.4	30.13	765.3	7.0	—13.9	92	2	6	11	4	.....	1	2	5	.....	3371	5425	6	1.85	47.0
Parry Sound	N. 45 19	W. 80 01	6.40 a.m.	635	194	29.34	745.2	30.09	764.3	12.5	—10.8	82	4	1	7	1	3	5	10	.....	.....	7382	11880	7	3.78	96.0
Peterborough	N. 44 17	W. 78 18	6.47 a.m.	668	204	29.29	744 0	30.14	765.5	13.5	—10.3	80	7	5	3	1	3	.....	.....	.....	12	.....	.....	6	1.50	38.1
Port Arthur	N. 48 27	W. 89 12	6.03 a.m.	642	196	29.36	745.7	30.15	765.8	0.4	—17.6	91	3	1	6	1	2	1	1	2	14	2866	4612	3	0.54	13.7
Port Dover	N. 42 47	W. 80 13	6.39 a.m.	635	194	29.40	746 7	30.14	765.5	1.9	—16.7	99	2	1	9	5	.....	1	.....	6	7	5860	9431	7	3.28	83.3
Port Stanley	N. 42 40	W. 81 13	6.35 a.m.	592	180	29.44	747.8	30.14	765.5	19.1	— 7.2	89	5	2	14	4	.....	.....	2	3	1	.....	.....	6	3.40	86.4
Qu' Appelle	N. 50 44	W. 103 42	5.05 a.m.	2115	645	27 72	704.1	30.24	768.1	— 4.0	—20.0	.....	.....	5	4	4	1	2	.....	.....	15	6601	10623	5	0.40	10.2
Quebec	N. 46 48	W. 71 12	7.15 a.m.	293	89	29.72	754.9	30.08	764.0	10.1	—12.2	80	3	.....	16	1	1	.....	4	3	3	.....	.....	7	3.43	87.1
Rockliffe	N. 46 10	W. 77 48	6.49 a.m.	418	127	29.61	752.1	30.12	765.0	61.9	16 6	91*a*	.....	.....	5	.....	.....	.....	11	.....	15	.....	.....	6	1.32	33.5
Saint Andrews	N. 45 04	W. 67 06	7.32 a.m.	47	14	29.99	761.7	30.04	763 0	20.0	— 6.7	92	4	11	5	.....	2	.....	.....	6	3	.....	.....	6	5.33	135.4
Saint John, N.B	N. 45 17	W. 66 03	7.36 a.m.	116	35	29.93	760.2	30.07	763.8	20.0	— 6.7	87	7	5	5	3	2	.....	1	3	5	.....	.....	6	0.45	103.8
Saint Pierre	N. 46 47	W. 56 08	8.15 a.m.	?	?	.....	.....	30.01	762.3	34.0	1.1	.....	.....	12	4	3	.....	8	.....	1	3	.....	.....	.....	2.52	64.0
Saugeen	N 44 30	W. 81 21	6.35 a.m.	656	200	29.32	744.7	30.09	764.3	45.0	7.2	89	3	2	7	3	5	1	3	2	5	8753	14086	9	3.74	95.0
S.W. Pt. Anticosti	N. 49 24	W. 63 36	7.46 a.m.	30	9	29.91	759.7	29.96	761.0	45.3	7.4	87	3	7	5	2	6	.....	6	2	.....	.....	.....	8	1.44	36.6
Stratford	N. 43 23	W. 81 00	6.36 a.m.	1186	361	28.87	733.3	30.13	765.3	14.5	— 9.7	87	4	4	7	4	1	2	4	.....	5	6212	9997	8	4.68	118.9
Swift Current	N. 50 21	W. 107 33	4.50 a.m.	.....	.....	27.39	695.7	30.23	767.8	6.3	—14.3	98*d*	2	4	3	4	6	3	.....	2	7	.....	.....	5	0.68	17.3
Sydney	N. 46 08	. 60 10	7.59 a.m.	37	11	29.98	761.5	30.04	763.0	27.9	— 2.3	88	3	1	3	9	6	2	1	2	4	8717	14028	8	4.24	107.7
Toronto	N. 43 39	W. 79 23	6.42 a.m.	350	107	29.72	754 9	30.13	765.3	18.9	— 7.3	85	6	5	5	7	1	.....	3	3	1	.....	.....	7	1.95	49.5
Woodstock	N. 43 08	W. 80 47	6.37 a.m.	980	299	29.01	736.8	30.16	766.0	15.5	— 9.2	85	2	3	7	7	.....	1	3	3	5	.....	.....	8	3.34	84.8
Yarmouth	N. 43 50	W. 66 02	7.36 a.m.	61	19	29.95	760.7	30.02	762.5	30.8	... 0.7	82	7	4	3	4	2	.....	4	6	1	.....	.....	9	5.30	134.6
Sub-series.																												
Saint Johns, N.F.	N. 47 34	W. 52 42	8.29 a.m.	159	48	29.75	755.6	29.93	760.2	29.2	— 1.6	91	2	8	4	4	7	4	.....	2	.....	.....	.....	7	4.85	123.2
CHINESE.																												
Foochow	N. 26 08	E. 119 38	7.59 p.m.	34	10	30.21	767.3	30.20	767.1	52.7	11.5	73	.....	1	.....	1	.....	1	1	27	.....	.....	.....	4	1.43	36.3
Hong Kong	N. 22 18	E. 114 10	7.37 p.m.	110	34	30.08	764.0	30.14	765.5	59.7	15.4	60	9	.....	1	.....	.....	2	11	7	1	.....	.....	3	1.78	45.2
Sub-series.																												
Zi-Ka-Wei	N. 31 12	E. 121 26	8.06 p.m.	23	7	30.33	770.3	30.31	769.9	38.8	3.8	72	8	1	9	2	1	2	3	5	.....	.....	.....	3	0.15	3.9
South Cape	N. 21 55	E. 120 51	8.04 p.m.	121	37	29.99	761.7	30.05	763.3	66.0	18.9	78	3	.....	.....	.....	.....	.....	.....	28	.....	.....	.....	7	2.94	74.7
DANISH.																												
Copenhagen	N. 55 41	E. 12 36	0.50 p.m.	43	13	29.51	749.6	29.59	751.6	35.2	1.8	85	3	1	2	12	8	.....	2	3	.....	.....	.....	8	.....	.....
Fanoe	N. 55 27	E. 8 24	0.34 p.m.	20	6	29.50	749.2	29.55	750.6	34.5	1.4	92	2	1	9	8	1	5	1	3	1	.....	.....	7	.....	.....
Godthaab	N. 64 11	W. 51 46	8.33 a.m.	36	11	29.43	747.5	29.52	749.8	17.2	— 8.2	89	4	3	1	2	1	3	3	9	5	.....	.....	8	.....	.....
Jacobshavn	N. 69 13	W. 50 55	8.36 a.m.	43	13	29.51	749.6	29.61	752.1	8.8	—12.9	.....	.....	.....	.....	3	1	6	18	.....	3	.....	.....	4	.....	.....

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1886.																			Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.														
						Actual.		Reduced.					Directions.									Total Movement.					
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
Danish—Con.	° ′	° ′																									
Stykkisholm	N. 65 05	W. 22 46	10.29 a.m.	36	11	29.48	748.7	29.53	750.0	23.2	— 3.8	87	1	1	4	2	.....	4	8	10	1	.....	.....	7	.....	.....
Thorshavn	N. 62 02	W. 6 44	11.33 a.m.	30	9	29.42	747.2	29.49	749.0	33.8	1.0	73	9	4	3	5	2	.....	.....	6	2	.....	.....	6	.....	.....
Upernavik	N. 72 47	W. 56 00	8.16 a.m.	39	12	29.59	751.6	29.69	754.1	0.6	—18.1	.....	1	.....	.....	3	3	.....	13	1	10	.....	.....	5	.....	.....
Vestervig	N. 56 47	E. 8 20	0.33 p.m.	82	25	29.37	746.1	29.49	749.0	34.5	1.4	86	.....	3	9	2	2	4	3	6	2	.....	.....	6	.....	.....
French.																											
Agen	N. 44 12	E. 0 38	0.03 p.m.	604	184	29.37	746.1	30.03	762.7	42.8	6.0	89	2	6	6	3	4	7	.....	3	.....	.....	.....	5	1.37	34.9
Alençon	N. 48 26	E. 0 05	0.00 m.	476	145	29.34	745.2	29.89	759.2	41.0	5.0	81	2	.....	.....	6	10	5	2	4	2	.....	.....	5	4.56	115.8
Arras	N. 50 18	E. 2 46	0.11 p.m	223	68	29.52	749.9	29.76	755.9	39.2	4.0	86	5	4	6	6	3	1	1	5	.....	.....	.....	6	4.70	119.4
Avignon	N. 43 57	E. 4 49	0.19 p.m	66	20	29.83	757.6	29.91	759.6	46.2	7.9	69	15	2	.....	.....	1	6	1	6	.....	.....	.....	4	1.13	28.7
Bar-sur-Seine	N. 48 07	E. 4 22	0.17 p.m.	518	158	29.28	743.8	29.87	758.7	37.6	3.1	89	1	1	1	9	10	4	1	4	.....	.....	.....	9	4.18	106.1
Beauvais	N. 49 26	E. 2 05	0.08 p.m.	269	82	29.47	748.4	29.80	756.9	39.0	3.9	.....	4	11	8	5	.....	.....	.....	.....	3	.....	.....	6	4.51	114.5
Besançon	N. 47 13	E. 6 02	0.24 p.m.	830	253	29.01	736.8	29.89	759.3	38.7	3.7	80	4	1	.....	.....	15	3	5	2	1	.....	.....	5	4.44	112.9
Bordeaux	N. 44 50	W. 0 32	11.58 a.m.	243	74	29.69	754.1	29.96	760.9	45.3	7.4	78	3	4	4	6	2	9	3	.....	.....	.....	.....	7	5.05	128.2
Bourges	N. 47 10	E. 2 26	0.10 p.m.	512	156	29.34	745.2	29.91	759.6	41.7	5.4	78	2	3	6	7	2	1	3	7	.....	.....	.....	6	3.00	76.3
Brest	N. 48 24	W. 4 30	11.42 a.m.	210	64	29.59	751.5	29.84	757.9	46.9	8.3	87	5	3	7	7	.....	.....	2	2	5	.....	.....	8	5.13	130.2
Caen	N. 49 11	W. 0 21	11.59 a.m.	69	21	29.77	756.2	29.86	758.4	42.6	a5.9	a87	2	2	7	6	8	.....	.....	3	3	.....	.....	6	4.72	120.0
Châlons-sur-Marne	N. 48 57	E. 4 21	0.17 p.m.	292	89	29.50	749.2	29.83	757.7	38.3	3.5	g89	6	2	3	8	5	1	1	4	1	.....	.....	4	4.22	107.1
Charleville	N. 49 46	E. 4 43	0.19 p.m.	476	145	29.27	743 5	29.81	757.2	36.5	2.5	85	4	2	10	6	6	1	2	.....	.....	.....	.....	9	5.06	128.5
Clermont-Fer'and	N. 45 46	E. 3 05	0.12 p.m.	1273	388	28.52	724.3	29.91	759.6	40.8	4.9	72	4	8	3	9	5	1	.....	.....	1	.....	.....	8	2.25	57.1
Cluny	N. 46 26	E. 4 39	0.19 p.m.	787	240	29.04	737.6	29.91	759.6	40.1	4.5	81	.....	8	4	7	5	1	.....	5	1	.....	.....	8	4.65	118.0
Commercy	N. 48 46	E. 5 35	0.22 p m.	797	243	28.94	735.1	29.85	758.2	36.9	2.7	a86	1	6	11	7	1	2	.....	1	2	.....	.....	8	7.72	196.2
Gap	N. 44 33	E. 6 05	0.24 p.m.	2424	739	27.35	694.7	29.96	761.0	37.4	3.0	73	1	.....	.....	.....	1	.....	.....	4	25	.....	.....	.....	3.21	81.6
Gréasque	N. 43 25	E. 5 37	0.22 p.m.	1056	322	28.74	730.1	29.89	759.2	45.0	7.2	65	6	1	.....	6	1	1	1	15	.....	.....	.....	4	2.03	51.5
Grenoble	N. 45 12	E. 5 43	0.23 p.m.	715	218	29.22	742.3	30.10	764.5	38.7	3.7	80	5	12	2	1	4	.....	7	.....	.....	.....	.....	6	4.13	104.8
Guéret	N. 46 10	E. 1 52	0.07 p.m.	1486	453	28.28	718.3	29.91	759 6	37.0	2.8	71	4	1	1	15	2	2	2	4	.....	.....	.....	7	7.60	193.0
Lescar	N. 43 20	W. 0 26	11.58 a.m.	525	160	29.40	746.7	29.96	761.0	48.4	9.1	72	2	2	6	11	1	4	2	3	.....	.....	.....	7	7.71	195.8
Lorient	N. 47 45	W. 3 21	11.47 a.m.	85	26	29.78	756.3	29.89	759.2	47.5	8.6	77	5	6	4	6	4	1	.....	3	2	.....	.....	6	6.76	171.8
Lyon	N. 45 41	E. 4 47	0.19 p.m.	981	299	28.84	732.4	29.92	759.9	39.9	4.4	71	4	6	2	2	7	7	2	1	.....	.....	.....	8	2.19	55.7
Mans	N. 48 00	E. 0 12	0.01 p.m.	285	87	29.55	750.6	29.89	759.2	42.1	5.6	84	2	6	4	5	2	1	.....	6	5	.....	.....	6	3.05	77.4
Marseille	N. 43 18	E. 5 23	0.22 p.m.	246	75	29.59	751.5	29.85	758.3	49.1	9.5	61	1	12	8	1	1	4	2	2	.....	.....	.....	1	0.75	19.1
Montlouis	N. 42 30	E. 2 07	0.08 p.m.	5202	1586	24.70	627.3	29.53	750.0	34.2	1.2	66	6	1	8	15	.....	1	.....	.....	.....	.....	.....	5	4.35	110.5
Montpellier	N. 43 37	E. 3 53	0.16 p.m.	118	36	29.80	756.8	29.90	759.5	48.9	9.4	60	4	10	.....	1	1	3	1	1	10	.....	.....	5	0.09	2.3
Mont Ventoux e	N. 44 10	E. 5 16	0.21 p.m.	6234	1900	23.55	598.3	.....	.....	25.5	— 3.6	77	4	8	.....	6	4	2	1	.....	.....	.....	.....	0	5.65	143.6
Nancy	N. 48 42	E. 6 11	0.25 p.m.	725	221	29.04	737.6	29.84	757.9	36.7	2.6	85	3	2	2	11	7	4	.....	2	.....	.....	.....	8	5.20	132.0
Nantes	N. 47 13	W. 1 33	11.54 a.m.	134	41	29.76	755.9	29.92	759.9	44.4	6.9	79	5	5	6	4	5	3	2	1	.....	.....	.....	6	.....	.....
Nice	N. 43 41	E. 7 16	0.29 p.m.	59	18	29.76	755.9	29.83	757.6	55.9	13.3	79	.....	.....	.....	.....	.....	.....	.....	5	.....	26	.....	.....	2.59	65.7
Perpignan	N. 42 42	E. 2 53	0.12 p.m.	105	32	29.83	757.6	29.95	760.6	49.1	9.5	56	1	18	.....	2	3	.....	1	1	5	.....	.....	6	0.57	14.5
Pic du Midi (Sum-	N. 42 56	W. 0 08	11.59 a.m.	9380	2859	20.99	533.2	.....	.....	18.1	— 7.7	85	.....	10	10	2	.....	.....	2	4	3	.....	.....	4	14.19	360.5
Privas. [mit.)	N. 44 45	E. 4 36	0.18 p.m.	997	304	28.84	732.6	29.93	760.3	43.0	6.1	66	m7	.....	.....	.....	8	.....	.....	.....	3	.....	.....	6	4.82	122.5
Puy de Dôme	N. 45 46	E. 2 58	0.12 p.m.	4813	1467	24.89	632.1	.....	.....	25.5	— 3.6	96	4	6	6	13	2	.....	.....	.....	.....	.....	.....	9	8.00	203.1
Rochefort	N. 45 56	W. 0 58	11.56 a.m.	30	9	29.89	759.2	29.92	760.0	46.0	7.8	79	3	4	3	7	5	1	2	6	.....	.....	.....	6	6.32	160.6
Roche-sur-Yon	N. 46 40	W. 1 26	11.54 a.m.	259	79	29.59	751.5	29.89	759.2	43.7	6.5	84	5	3	7	.....	2	5	6	3	.....	.....	.....	5	5.92	150.4
Rodez	N. 44 21	E. 2 34	0.10 p.m.	2050	625	27.73	704.3	29.95	760.7	38.3	3.5	.....	14	6	4	.....	1	3	2	1	.....	.....	.....	3	2.31	58.6
Rouen	N. 49 26	E. 1 05	0.04 p.m.	39	12	29.76	756.0	29.82	757.4	41.9	5.5	80	3	6	2	11	4	1	1	3	.....	.....	.....	7	5.61	142.5
Saint Brieuce	N. 48 37	E. 5 08	0.20 p.m.	348	106	29.41	747.0	29.85	758.2	44.6	7.0	83	5	2	8	3	3	2	5	3	.....	.....	.....	7	5.46	138.8
Saint Maur	N. 48 48	E. 2 21	0.09 p.m.	161	49	29.66	753.4	29.84	757.9	40.1	4.5	83	5	5	2	9	5	3	.....	2	.....	.....	.....	7	2.66	67.5
Toulouse	N. 43 37	E. 1 27	0.06 p.m.	636	194	29.28	743.8	30.00	762.1	44.1	6.7	85	.....	13	4	1	3	2	1	5	.....	.....	.....	7	2.44	62.0
Tours	N. 47 24	E. 0 41	0.03 p.m.	167	51	29.68	753.9	29.87	758.7	42.8	6.0	81	3	5	5	8	2	2	1	5	.....	.....	.....	5	4.20	106.7
Versailles	N. 48 48	E. 2 07	0.08 p.m.	413	126	29.31	744.4	29.79	756.7	39.4	4.1	86	2	4	8	5	5	3	.....	4	.....	.....	.....	6	3.11	79.1
Sub-Series.																											
St. Martin du Hinx.	N. 43 35	W. 1 16	11.55 a.m.	131	40	29.86	758 4	30.01	762.2	48.6	9.2	74	4	1	7	7	5	1	4	2	.....	.....	.....	7	g10.76	g273.3
German.																											
Ansbach	N. 49 18	E. 10 36	0.42 p.m.	1358	414	28.33	719.5	29.83	757.7	35.8	2.1	77	1	.....	7	13	1	1	.....	3	5	.....	.....	8	4.35	110.6
Bamberg	N. 49 54	E. 10 54	0.44 p.m.	787	240	28.89	733.8	29.73	755.1	36.5	2.5	75	.....	5	2	10	3	4	2	2	3	.....	.....	8	4.73	120.1
Berlin	N. 52 30	E. 13 19	0.53 p.m.	131	40	29.55	751.6	29.72	754 8	36.1	2.3	70	1	1	5	11	8	1	.....	3	1	.....	.....	7	2.19	55.7
Breslau	N. 51 07	E. 17 02	1.08 p.m.	482	147	29.24	742.6	29.77	756.1	34.7	1.5	81	1	2	7	6	5	6	2	2	.....	.....	.....	8	3.20	81.2
Carlsruhe	N. 49 01	E. 8 25	0.34 p.m.	413	126	29.37	745.9	29.82	757.4	39.2	4.0	88	1	.....	1	20	1	1	1	6	.....	.....	.....	9	9.07	230.4
Cassel	N. 51 19	E. 9 28	0.38 p.m.	669	204	28.99	736.4	29.80	756.9	35.6	2.0	83	1	2	7	6	5	6	2	2	.....	.....	.....	8	2.50	63.6
Frankfort on M	N. 50 08	E. 8 41	0.35 p.m.	338	103	29.39	746.5	29.83	757.7	37.8	3.2	80	1	2	7	10	6	.....	3	1	1	.....	.....	9	4.03	102.4
Friedrichshafen	N. 47 39	E. 9 29	0.38 p.m.	1338	408	28.41	721.5	29.87	758.7	38.1	3.4	79	5	1	3	14	1	1	1	5	.....	.....	.....	8	4.77	121.2
Hamburg	N. 53 33	E. 9 58	0.40 p.m.	85	26	29.55	750.6	29.64	752.9	35.4	1.9	90	3	.....	3	16	5	2	1	1	.....	.....	.....	8	2.98	75.8
Kiel	N. 54 19	E. 10 04	0.40 p.m.	13	4	29.63	752.5	29.66	753.4	34.9	1.6	86	1	.....	7	12	5	2	.....	4	.....	.....	.....	8	3.82	97.0
Leipsic	N. 51 20	E. 12 24	0.50 p.m.	390	119	29.31	744.4	29.72	754.9	34.2	1.2	92	3	1	4	10	10	1	1	1	.....	.....	.....	8	3.82	97.1
Memel	N. 55 43	E. 21 07	1.24 p.m.	39	12	29.63	752.5	29.70	754.4	34.0	1.1	.....	.....	6	2	6	10	3	1	3	.....	.....	.....	9	.....	.....
Munich	N. 48 09	E. 11 34	0.46 p.m.	1732	528	27.96	710.1	29.81	757.2	36.5	2.5	77	2	11	3	3	1	2	3	3	3	.....	.....	7	3.52	89.5
Neufahrwasser	N. 54 24	E. 18 40	1.15 p.m.	36	11	29.65	753.2	29.71	754.6	34.5	1.4	84	1	1	6	6	9	3	1	4	.....	.....	.....	8	0.81	20.5
Neustadt	N. 49 21	E. 8 08	0.33 p.m.	479	146	29.27	743.4	29.80	756.9	38.7	3.7	83	4	1	6	9	10	.....	.....	1	.....	.....	.....	9	7.89	200.5
Stuttgart	N. 48 47	E. 9 11	0.37 p.m.	833	254	28.89	733.8	29.83	757.7	38.1	3.4	75	3	4	4	15	2	.....	2	1	.....	.....	.....	8	4.02	102.0
Wustrow	N. 54 21	E. 12 24	0.50 p.m.	23	7	29.59	751.6	29.63	752.6	35.6	2.0	87	1	1	5	5	9	4	2	4	.....	.....	.....	8	1.87	47.6
Greek.																											
Athens	N. 37 58	E. 23 44	1.35 p.m.	348	106	29.62	752.3	29.99	761.7	59.9	15.5	72	.....	2	2	3	8	15	1	.....	.....	.....	.....	6	2.55	64.8
Indian.																											
Kurrachee	N. 24 47	E. 67 04	4.28 p.m.	49	15	29.98	761.4	29.98	761.4	76.2	24.6	41	1	1	8	12	1	2	3	3	.....	.....	.....	2	.....	.....
Deesa	N. 24 16	E. 72 14	4.49 p.m.	466	142	29.51	749.6	29.94	760.4	80.0	26.7	22	8	7	1	2	3	2	3	3	2	.....	.....	2	.....	.....
Bombay	N. 18 54	E. 72 49	4.51 p.m.	37	11	29.92	760.0	29.89	759.2	78.7	25.9	68	6	24	1	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	.....
Poona	N. 18 28	E. 74 10	4.57 p.m.	1849	564	28.10	713.6	29.87	758.7	79.1	26.2	35	3	2	2	1	1	2	8	12	.....	.....	.....	4	0.42	10.7
Belgaum	N. 15 52	E. 74 42	4.59 p.m.	2524	770	27.39	695.7	29.83	757.6	76.4	24.7	41	2	1	1	.....	1	3	11	11	1	.....	.....	3	0.24	6.1
Lahore	N. 31 34	E. 74 20	4.57 p.m.	702	214	29.31	744.5	30.02	762.4	62.5	16.9	54	.....	1	2	.....	.....	.....	1	.....	27	.....	.....	2	0.09	2.3
Roorkee	N. 29 52	E. 77 56	5.12 p.m.	887	270	29.09	738.8	29.98	761.5	65.3	18.5	52	.....	2	7	.....	1	2	.....	.....	19	.....	.....	2	0.10	2.5
Agra	N. 27 10	E. 78 05	5.12 p.m.	555	169	29.45	748.0	29.98	761.5	68.2	20.1	51	1	3	.....	.....	.....	1	2	1	23	.....	.....	2	.....	.....
Nagpur	N. 21 09	E. 79 11	5.17 p.m.	1025	312	28.94	735.2	29.94	760 4	76.0	24.4	46	4	.....	.....	1	2	2	7	9	6	.....	.....	3	0.60	15.2
Jubbulpore	N. 23 09	E. 79 59	5.20 p.m.	1341	409	28.64	727.4	29.97	761.2	70.0	21.1	51	7	5	1	.....	1	1	.....	1	15	.....	.....	4	0.42	10.7
Lucknow	N. 26 50	E. 81 00	5.24 p.m.	369	112	29.64	752.7	29.98	761.5	67.2	19.6	57	5	2	1	.....	1	1	.....	4	17	.....	.....	3	0.62	15.7
Allahabad	N. 25 26	E. 81 52	5.27 p.m.	307	94	29.70	754.4	29.98	761.5	67.2	19.6	68	1	1	4	.....	.....	.....	2	3	20	.....	.....	3	2.15	54.6
Patna	N. 25 37	E. 85 08	5.41 p.m.	183	56	29.83	757.7	29.97	761.3	68.1	20.1	67	.....	3	9	.....	.....	1	1	2	15	.....	.....	2	0.12	3.0
Hazaribagh	N. 24 00	E. 85 24	5.42 p.m.	2007	612	27.97	710.5	29.98	761.5	64.1	17.8	55	7	15	2	.....	1	1	1	3	.....	.....	.....	3	.....	.....
Cuttack	N. 20 29	E. 85 54	5.44 p.m.	80	24	29.93	760.3	29.96	761.0	74.8	23.8	62	1	1	4	8	5	1	.....	2	10	.....	.....	2	0.50	12.7
Calcutta	N. 22 33	E. 88 21	5.53 p.m.	21	6	29.99	761.7	29.96	761.0	68.8	20.4	72	6	5	5	2	2	2	1	1	7	.....	.....	1	.....	.....
Dhubri	N. 26 07	E. 89 50	5.59 p.m.	115	35	29.89	759.2	29.96	761.0	68.5	20.3	72	.....	.....	.....	.....	.....	.....	.....	2	2	27	.....	1	0.13	3.3
Chittagong	N. 22 21	E. 91 50	6.07 p.m.	87	27	29.91	759.6	29.94	760.5	70.3	21.3	75	1	7	15	4	.....	.....	.....	1	3	.....	.....	1	.....	.....
Sibsagar	N. 26 59	E. 94 40	6.19 p.m.	333	101	28.57	725.6	29.99	761.7	70.5	21.4	37	5	10	3	3	2	1	1	5	.....	.....	.....	3	.....	.....
Jeypore	N. 26 55	E. 75 50	5.03 p.m.	1431	436	28.46	722.8	29.88	758 9	79.1	26.2	48	1	2	1	.....	1	2	18	6	.....	.....	.....	4	.....	.....
Bellary	N. 15 09	E. 76 57	5.08 p.m.	1475	449	29.68	753.8	29.88	758.9	80.3	26.8	65	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	0.42	10.7
Trichinopoly	N. 10 50	E. 78 44	5.15 p.m.	275	84	29.69	754.2	29.99	761.7	64.6	18.1	87	.....	.....	.....	2	4	2	7	15	1	.....	.....	3	0.78	19.8
Italian.																											
Udine	N. 46 04	E. 13 13	0.53 p.m.	381	116	29.35	745.5	29.78	756.3	44.4	6.9	74	2	6	.....	2	3	1	2	1	14	.....	.....	7	7.16	182.0
Milan	N. 45 28	E. 9 11	0.37 p.m.	482	147	29.25	743.0	29.87	758.6	37.8	3.2	82	2	3	3	4	.....	7	8	4	.....	.....	.....	7	5.96	151.4
Padua	N. 45 24	E. 11 53	0.48 p.m.	102	31	29.72	754.9	29.83	757.7	42.4	5.8	77	13	8	.....	.....	1	2	1	4	2	.....	.....	7	3.15	79.9
Moncaliera	N. 45 00	E. 7 41	0.31 p.m.	846	258	28.94	735.0	29.87	758.8	37.8	3.2	78	.....	1	10	5	.....	1	3	11	.....	.....	.....	5	1.24	31.6
Genoa	N. 44 24	E. 8 55	0.36 p.m.	177	54	29.61	752.0	29.80	757.0	49.3	9.6	63	12	5	2	6	3	1	.....	.....	2	.....	.....	6	7.44	188.9
Pesaro	N. 43 55	E. 12 53	0.52 p.m.	46	14	29.78	756.5	29.83	757.7	48.4	9.1	71	4	3	.....	1	5	9	2	7	.....	.....	.....	7	2.30	58.4
Florence	N. 43 46	E. 11 15	0.45 p.m.	240	73	29.58	751.2	29.84	757.8	47.5	8.6	73	5	2	4	4	5	9	1	1	.....	.....	.....	7	5.04	128.1
Leghorn	N. 43 33	E. 10 18	0.41 p.m.	79	24	29.73	755.1	29.82	757.3	50.7	10.4	70	1	11	4	1	5	6	3	.....	.....	.....	.....	7	7.78	197.6
Rome	N. 41 54	E. 12 29	0.50 p.m.	164	50	29.68	753.8	29.86	758.4	52.3	11.3	70	5	3	3	.....	10	4	1	2	3	.....	.....	7	6.74	171.1

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
ITALIAN—Con.	° ′	° ′																								
Lecce	N. 40 22	E. 18 12	1.13 p.m.	236	72	29.67	753.5	29.92	760.0	56.3	13 5	65	5	.....	.....	1	9	8	3	5	.....	.....	.....	6	3.00	76.1
Cosenza	N. 39 19	E. 16 17	1.05 p.m.	840	256	29.04	737.6	29.95	760.7	55.0	12.8	68	.....	.....	.....	4	8	12	5	2	.....	.....	.....	6	9.92	252.1
Palermo	N. 38 07	E. 13 21	0.53 p.m.	236	72	29.70	754.3	29.95	760.7	60.3	15.7	60	.....	.....	.....	.....	.....	20	.....	9	2	.....	.....	6	2.66	67.5
Syracuse	N. 37 03	E. 15 15	1.01 p.m.	72	22	29.94	760.4	29.98	761.5	58.1	14.5	62	2	2	1	.....	5	2	15	4	.....	.....	.....	6	2.02	51.4
Sub-Series.																										
Stelvio	N. 46 32	E. 10 25	0.42 p.m.	8343	2543	21.83	554.4	.....	.....	14.5	— 9.7	84	2	.....	5	9	.....	2	1	12	.....	.....	.....	6	7.52	191.0
Valdobbia	N. 45 47	E. 7 51	0.31 p.m.	8360	2548	21 85	554.9	.....	.....	10.7	— 7.4	57	5	4	6	11	.....	....	2	3	.....	.....	.....	7	9.06	230.0
JAPANESE.																										
Akita	N. 39 42	E.140 07	9.20 p.m.	49	15	29.89	759.3	29.93	760.2	33.8	1.0	92	3	3	11	1	1	1	8	2	1	10459	16832	9	6.56	166.6
Awomori	N. 40 51	E.140 45	9.23 p.m.	33	10	29.86	758.5	29.89	759.2	30.5	— 0.8	85	.....	4	10	6	4	3	1	.....	3	4197*i*	6754*i*	8	4.55	115.6
Fushiki	N. 36 47	E.137 03	10.05 p.m.	13	4	.....	.....	.....	.....	37.2	2.9	87	.....	2	1	13	3	.....	.....	1	11	4537	7302	9	16.91	429.5
Gifu	N. 35 27	E.136 46	9.07 p.m.	49	15	30.02	762.6	30.08	764.0	38.9	3.8	86	7	4	4	.....	1	.....	1	13	1	2401	3864	3	1.68	42.7
Hakodate	N. 41 46	E.140 44	9.23 p.m.	10	3	29.85	758.2	29.85	758.3	31.1	— 0.5	83	12	2	16	.....	1	.....	.....	.....	.....	9851	15853	7	1.61	40.9
Hamamatsu	N. 34 42	E.137 43	9.11 p.m.	92	28	29.93	760.2	30.00	762.1	41.3	5.2	74	1	4	22	.....	.....	.....	1	2	1	.....	.....	2	0.69	17.5
Hiroshima	N. 34 23	E.132 27	8.50 p.m.	15	5	30.14	765.6	30.13	765.3	39.9	4.4	78	19	.....	9	1	.....	.....	1	1	.....	3557	5724	4	0.78	19.8
Itsurhara	N. 34 12	E.129 16	8.34 p.m.	16	5	30.17	766.2	30.16	766.1	41.0	5.0	70	4	18	5	.....	2	.....	.....	.....	2	4504	7248	5	2.34	59.4
Kanazawa	N. 36 33	E.136 40	9.07 p.m.	95	29	29.96	761.0	30.05	763.2	38.2	3.4	86	4	2	7	2	7	5	3	.....	1	6030*b*	9704*b*	8	23.16	588.2
Kago-hima	N. 31 35	E.130 33	8.42 p.m.	13	4	30.19	766.8	30.17	766.2	42.3	5.7	85	7	3	.....	.....	.....	.....	.....	1	20	1590	2559	4	3.23	82.0
Kioto	N. 35 01	E.135 46	9.03 p.m.	161	49	29.92	760.0	30.08	764.0	36.7	2.6	85	10	5	5	2	3	.....	2	3	1	2461	3960	5	1.08	27.4
Miasaki	N. 31 56	E.131 26	8.46 p.m.	26	8	30.16	766.2	30.16	766.1	42.0	5.6	82	3	1	25	1	1	.....	.....	.....	.....	5698	9170	2	0.72	18.3
Miyako	N. 39 38	E.141 59	9.28 p.m.	98	30	29.78	756.3	29.87	758.8	33.9	1.1	78	.....	1	17	6	2	.....	.....	.....	5	3259	5245	3	1.61	40.9
Nagasaki	N. 32 44	E.129 52	8.39 p.m.	190	58	30.00	762.1	30.18	766.6	41.5	5.3	79	11	6	2	.....	.....	1	1	7	5	3526	5674	5	4.97	126.2
Nemuro	N. 43 20	E.145 35	9.42 p.m.	89	27	29.67	753.5	29.76	755.9	30.4	— 0.9	69	3	5	12	3	1	1	3	2	1	8418	13547	6	2.27	57.7
Niigata	N. 37 55	E.139 03	9.16 p.m.	33	10	29.95	760.8	29.97	761.2	39.7	4.3	80	1	3	15	4	2	4	2	.....	.....	.....	.....	8	9.71	246.6
Nobiru	N. 38 23	E.141 11	9 25 p.m.	16	5	29.91	759.7	29.91	759.6	34.6	1.4	88	11	9	4	1	1	.....	.....	.....	5	8011	12892	4	0.91	23.1
Numadzu	N. 35 06	E.138 51	9.15 p.m.	30	9	29.94	760.5	29.95	760.8	42.3	5.7	67	2	1	5	6	.....	.....	9	8	.....	7603	12236	3	0.72	18.3
Osaka	N. 34 42	E.135 30	9.02 p.m.	46	14	30.06	763.6	30.08	764.0	41.2	5.1	75	4	1	15	.....	1	.....	.....	5	5	7060	11362	2	0.64	16.3
Sakai	N. 35 33	E.133 14	8.53 p.m.	7	2	30.11	764.7	30.09	764.3	41.0	5.0	75	1	.....	16	8	.....	.....	.....	3	3	5853	9419	8	5.85	148.6
Shimonoseki	N. 33 58	E.130 56	8.44 p.m.	164	50	30.00	762.1	30.16	766.1	43.2	6.2	69	.....	13	6	2	.....	.....	2	1	7	.....	.....	6	1.89	48.0
Soya	N. 45 29	E.141 51	9.27 p.m.	39	12	29.69	754.1	29.74	755.3	28.7	— 1.8	90	.....	5	14	.....	3	4	1	.....	4	16454	26480	9	0.82	20.8
Supporo	N. 43 04	E.141 23	9.26 p.m.	59	18	29.76	756.0	29.82	757 4	27.2	— 2.7	82	1	3	5	4	8	2	.....	.....	8	4296	6914	6	2.46	62.5
Tokei	N. 35 41	E.139 46	9.19 p.m.	69	21	29.90	759.4	29.95	760.8	39.4	4.1	71	9	7	6	1	4	1	3	.....	.....	4669	7514	3	1.00	25.4
Wakayama	N. 34 14	E.135 09	9.01 p.m.	49	15	30.06	763 5	30.09	764.2	42 9	6.1	64	8	8	5	.....	.....	.....	2	3	5	4027	6481	5	0.66	16.8
MAURITIUS.																										
Mauritius	S. 20 06	E. 57 33	3.50 p.m.	181	55	29.80	756.9	29.93	760.2	79.7	26.5	64	2	3	5	2	1	1	9	8	.....	3095	4981	6	6.31	160.3
MEXICAN.																										
Guanajuato	N. 21 01	W.101 10	5.15 a m.	6762	2061	23.73	602.7	29.86	758.4	47.8	8.8	68	2	3	6	1	1	8	2	6	2	.....	.....	3	0.13	3.4
Leon	N. 21 07	W.101 36	5.14 a.m.	5902	1799	24.36	618.7	30.17	766.3	43.5	6.4	85	8	17	.....	1	1	1	.....	3	.....	.....	.....	4	0.00	00.0
Mazatlan	N. 23 12	W.106 17	4.55 a.m.	249	76	29.77	756.1	29.98	761.5	60.6	15.9	88	1	4	3	.....	.....	.....	13	10	.....	.....	.....	1	.....	.....
Mexico	N. 19 26	W. 99 00	5.24 a.m.	7490	2283	23.13	587.5	30.26	768.6	43.0	6.1	75	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	0.00	00.0
Zacatecas	N. 22 47	W.102 26	5.10 a m.	8100	2469	22.56	573.0	30.26	768.6	44.1	6.7	55	0	.....	8	9	2	5	2	2	.....	.....	.....	4	0.00	00.0
NETHERLANDS.																										
Flushing	N. 51 24	E. 3 35	0.14 p.m.	0	0	29.69	754.2	29.71	754.6	39.7	4.3	.....	1	5	4	9	8	.....	1	3	.....	.....	.....	.....	1.93	49.1
Groningen	N. 53 12	E. 6 34	0.26 p.m.	60?	18?	29.55	750.5	29.62	752.3	36.1	2.3	.....	.....	3	11	8	4	... .	2	1	2	.....	.....	.....	3.93	99.8
Helder	N. 52 58	E. 4 45	0.19 p.m.	0	0	29.61	752.1	29.63	752.6	39.0	3.9	.....	.....	2	7	7	7	3	.....	4	.....	.....	.....	.....	5.88	149.4
Hellevoetsluis	N. 51 49	E. 4 08	0.17 p.m.	0	0	29.66	753.4	29.68	753.9	38.7	3.7	.....	.....	3	6	11	5	.....	2	1	3	.....	.....	.....	1.18	30.1
Utrecht	N. 52 05	E. 5 07	0.20 p.m.	43	13	29.63	752.5	29.69	754.1	37.8	3.2	.....	1	1	5	12	8	1	1	2	.....	.....	.....	3	4.09	103.9
Sub-Series.																										
Batavia	S. 6 11	E.106 50	7.07 p.m.	26	8	.....	.....	29.75	755.6	77.7	25.4	86	1	10	7	4	.....	3	.....	1	5	.....	.....	9	13.62	345.9
NORWEGIAN.																										
Bergen	N. 60 24	E. 5 20	0.21 p.m.	56	17	29.36	745 7	29.46	748.3	33.1	0.6	82	3	1	1	.....	3	11	1	4	7	.....	.....	6	6.09	154.6
Brono	N. 65 28	E. 12 14	0.49 p.m.	33	10	29.37	746.1	29.47	748.4	29.3	— 1.5	70	1	.....	.....	7	1	1	19	1	1	.....	.....	7	1.87	47.5
Christiania	N. 59 55	E. 10 45	0.43 p.m.	134	41	29.35	745.5	29.49	749.1	23.2	— 4.9	89	3	2	1	.....	1	.....	6	2	16	.....	.....	7	2.01	51.0
Gjæsvær	N. 71 00	E. 25 22	1.41 p.m.	23	7	29.42	747.3	29.51	749.5	24.1	— 4.4	.....	1	2	3	2	1	6	1	7	8	.....	.....	6	2.76	70.2
PORTUGUESE.																										
Funchal	N. 32 38	W. 16 55	10.52 a.m.	82	25	30.05	763.2	30.10	764.6	64.8	18.2	69	1	.....	3	13	.....	6	6	2	.....	.....	.....	6	3.53	89.7
Lisbon	N. 38 42	W. 9 08	11.23 a.m.	312	95	29.80	756.8	30.12	765.1	54.1	12.3	77	9	4	2	6	4	1	2	3	... .	.....	.....	6	5.02	127.5
Ponta Delgada	N. 37 45	W. 25 41	10.17 a.m.	66	20	30.12	765.0	30.17	766.3	60.8	16.0	77	3	.....	7	2	1	4	3	11	.....	.....	.....	4	4.56	115.9
Saint Vincent	N. 16 37	W. 25 02	10.20 a.m.	35	11	29.97*a*	761.1*a*	29.93*a*	760.3*a*	74.5*a*	23.6	.....	16*a*	.....	.....	.....	.....	.....	.....	1	13	.....	.....	5*a*	1.66	42.3
San Salvador	S. 6 17	E. 14 53	1.00 p.m.	1834	559	28.00	712.2	29.80	756.8	77.9	25.5	76	.....	.....	.....	1	.....	.....	.....	.....	30	.....	.....	8	9.85	250.2
Serra da Estrella	N. 40 25	W. 7 35	11.30 a.m.	4728	1441	25.25	641.3	30.07	763.8	38.1	3.4	81	2	2	7	8	2	.....	6	2	1	.....	.....	6	34.10	866.1
RUSSIAN.																										
Archangel	N. 64 33	E. 40 32	2.42 p.m.	16	5	29.56	750.8	29.63	752.6	20.3	— 6.5	86	.....	1	.....	6	5	9	5	3	2	.....	.....	10	.....	.....
Astrakhan	N. 46 21	E. 48 02	3.12 p.m.	69	21	30.34	770.6	30.27	768.8	38.7	3.7	88	2	1	1	1	3	15	8	3	.....	.....	.....	9	.....	.....
Baku	N. 40 21	E. 49 51	3.19 p.m.	36	11	30.30	769.6	30.27	768.8	49.1	9.5	85	7	3	.....	4	6	4	3	.....	4	.....	.....	6	0.03	0.7
Barnaul	N. 53 20	E. 83 47	5.35 p.m.	459?	140?	29.86	758.4	30.43	772.9	31.3	— 0.4	87	.....	.....	1	20	.....	.....	.....	1	9	.....	.....	7	0.85	21.7
Dorpat	N. 58 23	E. 26 43	1.47 p.m.	210	64	29.43	747.5	29.71	754.6	29.1	— 1.6	.....	.....	2	3	9	6	5	4	2	.....	.....	.....	8	2.72	69.1
Ekaterinburg	N. 56 49	E. 60 38	4.03 p.m.	899	274	29.14	740.1	30.21	767.3	22.1	— 5.5	84	.....	2	12	11	3	1	.....	2	.....	.....	.....	8	0.26	6.6
Elisavetgrad	N. 48 31	E. 32 17	2.09 p.m.	407	124	29.46	748.3	29.94	760.5	41.4	5.2	86	2	4	1	4	5	7	2	2	4	.....	.....	9	.....	.....
Irkutsk	N. 52 17	E.104 16	6.57 p.m.	1489	454	28.72	729.5	30.47	773.9	11.7	—11.3	92	1	10	.....	.....	.....	3	.....	1	16	.....	.....	3	0.63	15.9
Kasalinsk	N. 45 46	E. 62 07	4.08 p.m.	148	45	30.12	765.0	30.30	769.6	21.0	— 6.1	.....	.....	2	6	.....	1	4	4	14	.....	.....	.....	7	0.00	0.00
Kasan	N. 55 47	E. 49 08	3.17 p.m.	230	70	29.86	758 4	30.15	765.8	26.8	— 2.9	89	1	2	.....	7	9	11	1	.....	.....	.....	.....	9	0.57	14.4
Kem	N. 64 57	E. 34 39	2.19 p.m.	43	13	29.56	750.8	29.66	753.4	21.2	— 6.0	91	.....	2	8	3	5	1	.....	2	10	.....	.....	9	1.76	44.7
Kertch	N. 45 21	E. 36 29	2.26 p.m.	20?	6?	30.03	762.7	30.05	763.3	52.0	11.1	84	1	2	2	2	10	5	7	.....	2	.....	.....	7	.....	.....
Kieff	N. 50 27	E. 30 30	2.02 p.m.	600	183	29.28	743.7	29.96	761.0	36.1	2.3	85	3	1	5	3	7	6	2	2	2	.....	.....	8	3.09	78.5
Korostishev	N. 50 19	E. 29 03	2.05 p.m.	?	?	29.24	742.7	.....	.....	43.3	6.3	86	.....	1	.....	8	6	6	4	1	5	.....	.....	8	0.21	5.3
Koslov	N. 52 53	E. 40 31	2.42 p.m.	505	154	29.48	748.8	30.07	763.8	31.8	— 0.1	92	2	.....	2	4	12	7	1	1	2	.....	.....	9	.....	.....
Lgov	N 51 38	E 35 17	2.21 p.m.	518	158	29.41	747.0	30.02	762.5	34.7	1.5	88	1	.....	1	6	8	2	8	3	5	.....	.....	9	1.85	47.1
Libau	N. 56 31	E. 21 01	1.24 p.m.	20	6	29.62	752.3	29.67	753.6	34.5	1.4	84*k*	.....	.....	.....	6	4	11	4	3	2	1	.....	8	2.91	73.8
Lugan	N. 48 35	E. 39 20	2.37 p.m.	164	50	29.96	761.0	30.15	765.8	41.9	5.5	82	.....	.....	2	11	2	4	11	1	.....	.....	.....	9	1.52	38.7
Moscow	N. 55 46	E. 37 40	2.31 p.m.	446	136	29.45	748.0	29.99	761.7	30.2	— 1.0	89	1	.....	.....	5	5	10	3	3	2	2	.....	8	1.02	25.9
Nerchinsk	N. 51 19	E. 119 37	7.58 p.m.	2165?	660?	27.79	705.8	30.32	770.1	—10.3	—23.5	.....	.....	.....	1	1	.....	.....	.....	.....	29	.....	.....	2	.....	.....
Nikolaiev	N. 46 58	E. 31 58	2.08 p.m.	66	20	29.88	758.9	29.95	760.7	46.0	7.8	83	5	.....	.....	1	12	2	2	2	7	.....	.....	8	0.64	16.2
Nikolaievsk	N. 53 08	E.140 45	9.23 p.m.	72	22	29.57*a*	751.1*a*	29.66*a*	753.4*a*	—43.3	—19.6*a*	88*x*	*a*	7	19	.....	.....	1	1	2	.....	.....	.....	4*a*	0.60	15.2
Nikolsk	N. 59 32	E. 45 27	3.02 p.m.	485?	148?	29.54	750.3	29.98	761.5	26.1	— 3.3	87*e*	2	2	.....	7	5	12	2	.....	1	.....	.....	9	1.33	33.8
Perm	N. 58 01	E. 56 16	3.45 p.m.	328?	100?	29.67	753.6	30.14	765.5	22.1	— 5.5	89	.....	.....	1	14	5	8	.....	.....	3	.....	.....	9	1.52	38.7
Petro-Alexandrovsk	N. 41 28	E. 61 05	4.04 p.m.	328	100	29.93	760.2	30.30	769.6	33.3	0.7	.....	1	2	2	2	1	4	.....	11	8	.....	.....	5	.....	.....
Petrozavodsk	N. 61 47	E. 34 23	2.18 p.m.	220?	67?	29.45	748.0	29.75	755.6	27.1	— 2.7	87	.....	1	4	10	5	6	1	1	3	.....	.....	8	1.66	42.2
Pinsk	N. 52 07	E. 26 06	1.44 p.m.	459?	140?	29.32	744.7	29.87	758.7	34.5	1.4	87	1	.....	2	5	8	7	3	4	1	.....	.....	8	1.97	50.0
Poti	N. 42 09	E. 41 37	2.46 p.m.	26	8	30.08	764.0	30.10	764.5	57.0	13.9	53	.....	.....	.....	1	1	3	.....	22	1	3	.....	.....	.....	.....
St. Petersburg	N. 59 56	E. 30 16	2.01 p.m.	20	6	29.65	753.1	29.71	754.6	29.1	— 1.6	88	2	1	1	6	5	15	.....	.....	1	.....	.....	10	2.10	53.4
Samarkand	N. 39 39	E. 66 57	4.28 p.m.	2379?	725?	27.76	705.1	30.33	770.3	39.6	4.2	.....	.....	.....	.....	.....	.....	1	1	.....	29	.....	.....	7	0.53	13.4
Sevastopol	N. 44 37	E. 33 31	2.14 p.m.	197	60	29.84	757.9	30.06	763.5	55.0	12.8	69	1	.....	2	7	9	7	.....	2	3	.....	.....	7	0.50	12.7
Tashkend	N. 41 20	E. 69 18	4.37 p.m.	1607?	490?	28.61	726.7	30.35	770.9	35.2	1.8	82	2	3	2	1	.....	.....	.....	1	22	.....	.....	7	2.35	59.6
Tiflis	N. 41 43	E. 44 47	2.59 p.m.	1342	409	28.81	731.8	30.25	768.3	48.0	8.9	54	.....	.....	4	3	.....	4	12	2	.....	6	.....	5	0.38	9.6
Troitskosavsk	N. 50 22	E.106 27	7.06 p.m.	2529?	771?	27.43*a*	696.7*a*	30.43*a*	772.9*a*	47.5	—13.6*a*	77*a*	1*a*	2	.....	.....	1	3	.....	.....	23	.....	.....	3*a*	0.09	2.2
Viatka	N. 58 36	E. 49 41	3.19 p.m.	581?	177?	29.32	744.7	30.02	762.5	38.3	3.5	.....	.....	2	7	9	10	2	.....	.....	1	.....	.....	10	0.81	20.6
Warsaw	N. 52 13	E. 21 02	1.24 p.m.	390	119	29.31	744.5	29.77	756.1	33.6	0.9	87	1	.....	4	4	15	2	2	3	.....	.....	.....	9	1.96	49.9
Yeniseisk	N. 58 27	E. 92 06	6.08 p.m.	276?	84	29.96	761.0	30.32	770.1	12.2	—11.0	.....	.....	.....	7	7	3	2	1	.....	11	.....	.....	9	2.10	53.2
SPANISH.																										
Barcelona	N. 41 23	E. 2 15	0.09 p.m.	138	42	29.79	756.6	29.95	760.7	50.5	10.3	65	2	2	9	5	6	1	1	5	.....	195	314	5	0.28	7.0
Bilbao	N. 43 15	W. 2 59	11.48 a.m.	52	16	29.96	761.0	30.02	762.5	51.4	10.8	80	1	11	5	2	2	3	2	1	4	2699	4343	9	12.40	315.1
Burgos	N. 42 20	W. 3 46	11.45 a.m.	2822	860	27.06	687.4	30.12	765.0	40.6	4.8	84	3	5	1	4	16	.....	1	1	.....	6544	10531	8	3.72	94.6
Madrid	N. 40 25	W. 3 42	11.45 a.m.	2152	656	27.84	707.1	30.11	764.8	45.9	7.7	76	.....	.....	5	4	2	2	.....	4	14	7613	12252	6	2.23	56.6
Santiago	N. 42 53	W. 8 28	11.26 a.m.	863	263	29.10	739.1	30.03	762.8	49.6	9.8	87	2	.....	3	12	.....	.....	.....	10	4	7829	12600	8	17.19	436.7

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea.		Result of Simultaneous Observations for December, 1886.																				Average Cloudiness.	Total Precipitation	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.															
						Actual.		Reduced.					Directions.									Total Movement.						
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.			9-10	Inch.	Mill.
SPANISH—*Sub.*	° ′	° ′																										
Havana	N. 23 08	W. 82 23	6.30 a.m.	62	19	30.05	763.3	30.06	763 5	65.9	18.8	85	6	1	1	1	1	15	6	.....	.....	.....	.....	4	0.67	17.0
Manila	N. 14 35	E. 120 57	8.04 p.m.	52	16	29.89	759.3	29.88	758.9	75.9	24.4	86	7	1	1	.....	.....	1	7	10	4	2436	3920	6	3.52	89.4
San Fernando	N. 36 28	W. 6 13	11.35 a.m.	95	29	30.06	763.5	30.14	765.5	56.9	13.8	75	9	6	1	5	3	1	2	1	3	.....	.....	6	2.18	55.4
San Juan de Porto Rico	N. 18 30	W. 66 10	7.35 a.m.	82	25	29.96	761.0	29.99	761.7	74.7	23.7	87	.....	.....	.....	.....	.....	10	8	1	12	.....	.....	5	6.11	155.1
SWEDISH.																												
Haparanda	N. 65 47	E. 24 03	1.36 p.m.	30	9	29.48	748.8	29.57	751.1	16.3	— 8.7	96	10	1	1	1	3	3	.....	2	10	.....	.....	7	2.78	70.6
Umea	N. 63 50	E. 20 17	1.21 p.m.	39	12	29.45	748.0	29.55	750.5	21.6	— 5.8	92	7	1	1	3	4	2	1	9	3	.....	.....	8	2.26	57.5
Hernosand	N. 62 32	E. 17 57	1.12 p.m.	46	14	29.44	747.7	29.53	750.1	23.2	— 4.9	91	7	.....	.....	2	6	1	.....	2	13	.....	.....	8	2.35	59.8
Stockholm	N. 59 20	E. 18 04	1.12 p.m.	144	44	29.35	745.5	29.56	750.9	30.0	— 1.1	85	3	3	8	4	7	3	2	1	.....	.....	.....	8	2.10	53.4
Wisby	N. 57 39	E. 18 19	1.13 p.m.	52	16	29.47	748.4	29.56	750.7	35.1	1.7	85	2	1	8	8	4	3	3	2	.....	.....	.....	7	2.58	65.6
Sub-Series.																												
Upsala	N. 59 51	E. 17 37	1.10 p.m.	79	24	29.40	746.7	29.59	751.6	26.4	— 3.1	91	1	8	.....	5	9	4	3	1	.....	.....	.....	8	2.17	55.2
SWISS.																												
Geneva	N. 46 12	E 6 08	0.25 p m.	1338	408	28.45	722.7	29.93	760.1	39.2	4.0	74	10	4	1	5	10	.....	1	.....	.....	.....	.....	9	4.76	121.0
TURKISH.																												
Constantinople	N 41 02	E. 28 59	1.56 p.m.	246	75	.....	.....	29.99	761.7	56.3	13.5	65	1	3	.....	10	7	6	3	1	.....	.....	.....	6	1.17	29.8
Valona	N. 40 27	E. 19 27	1.18 p.m.	105	32	.....	.....	30.02	762.5	57.6	14.2	.....	.....	4	.....	6	8	5	2	6	.....	.....	.....	7	14.21	361.0
Sub-Series.																												
Beirut	N. 33 54	E. 35 28	2.22 p.m.	112	34	29.98	761.5	30.07	763.8	64.6	18.1	66	11	2	7	2	2	.....	2	1	4	.....	.....	4	5.46	138.7
UNITED STATES.																												
Atlantic states.																												
Eastport	N. 44 54	W. 66 59	7.32 a.m.	61	19	29.93	760.2	.....	.....	21.8	— 5.7	.....	4	6	9	1	2	.....	2	5	2	.....	.....	7	6.51	165.4
Portland	N. 43 39	W. 70 15	7.19 a.m.	99	30	29.96	761.0	30.07	763.8	21.1	— 6.1	84	8	5	7	5	1	1	.....	2	2	6620	10654	7	5.04	128.0
Mt. Washington	N. 44 16	W. 71 18	7.15 a.m.	6279	1914	23.45	595.6	30.02	762.5	9.5	—12.5	94	1	17	6	5	.....	2	.....	.....	.....	.....	.....	7	3.10	78.7
Boston	N. 42 21	W. 71 04	7.16 a.m.	124	38	29.95	760 7	30.08	764.0	26.0	— 3.3	75	5	5	11	3	3	.....	.....	4	.....	9933	15985	6	3.66	93.0
Nantucket	N. 41 14	W. 70 07	6.40 a.m.	13	4	30.08	764.0	30.08	764.0	35.6	2.0	85	3	8	2	4	1	.....	2	11	.....	9779	15738	7	4.93	125.2
Block Id	N. 41 10	W. 71 36	7.14 a.m.	27	8	30.07	763.8	30.09	764.3	32.2	0.1	84	4	8	5	4	.....	1	.....	9	.....	13641	21953	6	6.70	170.2
New London	N. 41 21	W. 72 05	7.12 a.m.	47	14	30.02	762 5	30.06	763.5	26.7	— 2.9	85	11	3	8	3	1	.....	.....	2	3	5475	8811	6	4.37	111.0
New Haven	N. 41 18	W. 72 56	7.08 a.m.	107	33	30.01	762.2	30.12	765.0	24.4	— 4.2	83	5	9	5	4	1	1	.....	5	1	7318	11777	6	3.47	88.1
Albany	N. 42 39	W. 73 45	7.05 a.m.	85	26	30.07	763.8	30.16	766.1	21.1	— 6.1	78	5	7	3	3	9	1	.....	1	2	4852	7808	7	2.19	55.6
New York City	N. 40 43	W. 74 00	7.04 a.m.	168	51	29.97	761.2	30.14	765.5	27.8	— 2.3	79	3	7	5	3	3	2	.....	7	1	7461	12007	5	3.73	94.7
Philadelphia	N. 39 57	W. 75 09	6.59 a.m.	117	36	30.04	763.0	30.16	766.1	28.1	— 2.2	74	.....	7	6	5	4	.....	.....	8	.....	a8866	a14208	6	3.09	78.5
Atlantic City	N. 39 22	W. 74 25	7.02 a.m.	13	4	30.13	765.3	30.13	765.3	30.2	— 1.0	89	5	5	9	4	1	.....	1	4	2	7026	11307	5	3.93	99.8
Baltimore	N. 39 18	W. 76 37	6.54 a.m.	45	14	30.13	765 3	30.16	766.1	27.7	— 2.4	76	6	9	2	4	1	.....	1	6	2	4028	6482	6	3.12	79.2
Washington City	N. 38 54	W. 77 03	6.52 a.m.	106	32	30.07	763.8	30.17	766.3	27.0	— 2.8	79	9	3	8	1	4	.....	1	7	4	4148	6676	7	3.44	87.4
Chincoteague	N. 37 55	W. 75 23	6.58 a.m.	8	2	30.14	765.5	30.13	765.3	33.7	0.9	80	9	6	2	7	4	.....	.....	6	.....	10541	16964	5	4.54	115.3
Cape Henry	N. 36 56	W. 76 00	6.56 a.m.	16	5	30.14	765.5	30.14	765.5	36.2	2.3	82	4	8	4	7	3	.....	.....	5	.....	11159	17958	6	5.16	131.1
Lynchburg	N. 37 25	W. 79 09	6.43 a.m.	652	199	29.45	748.0	30.15	765.8	28.3	— 2.1	82	1	3	1	.....	2	.....	1	4	19	1704	2742	7	2.81	71.4
Norfolk	N. 36 51	W. 76 17	6.55 a.m.	30	9	30.14	765.5	30.15	765.8	34.1	1.2	85	9	5	3	1	6	.....	.....	3	4	4921	7919	6	5.85	148.6
Kittyhawk	N. 36 00	W. 75 42	6.57 a.m.	9	3	30.15	765.8	30.14	765.5	40.7	4.8	89	7	7	3	3	2	.....	1	6	2	11045	17775	6	3.89	98.8
Hatteras	N. 35 15	W. 75 40	6.57 a.m.	12	4	30.15	765.8	30.14	765.5	43.4	6.3	85	13	8	6	1	1	1	.....	.....	1	9219	14830	5	2.51	63.8
Fort Macon	N. 34 42	W. 76 40	6.53 a.m.	11	3	30.18	766.6	30.16	766.1	42.2	5.7	80	8	9	4	7	2	.....	.....	1	.....	7120	11458	7	3.67	93.2
Wilmington	N. 34 14	W. 77 57	6.48 a.m.	52	16	30.11	764.8	30.14	765.5	39.8	4.4	84	4	8	1	3	.....	1	1	6	7	4233	6973	6	4.02	102.1
Charlotte	N. 35 13	W. 80 51	6.37 a.m.	808	246	29.30	744.2	30.15	765.8	33.9	1.1	81	3	3	.....	2	4	.....	4	5	10	a2601	a4186	6	6.26	159.0
Charleston	N. 32 47	W. 79 56	6.40 a.m.	52	16	30.11	764.8	30.13	765.3	44.2	6.8	85	7	2	6	3	1	2	1	5	4	5084	8182	6	1.79	45.5
Augusta	N. 33 28	W. 81 54	6.32 a.m.	183	56	30.00	762.0	30.17	766.3	36.1	2.3	93	4	5	8	5	3	2	.....	4	.....	a2778	a4470	6	3.55	90.2
Savannah	N. 32 05	W. 81 05	6.36 a.m.	87	27	30.09	764.3	30.15	765.8	42.3	5.7	87	9	7	4	4	2	.....	2	3	.....	4741	7630	5	3.16	80.3
Jacksonville	N. 30 20	W. 81 39	6.33 a.m.	43	13	30.13	765.3	30.14	765.5	47.1	8.4	89	2	8	5	3	1	1	.....	8	3	3885	6252	5	3.20	81.3
Cedar Keys	N. 29 08	W. 83 02	6.28 a.m.	22	7	30.18	766.6	30.16	766.1	50.8	10.4	87	5	5	4	.....	4	1	2	10	.....	6050	9736	5	1.95	49.5
Key West	N. 24 34	W. 81 49	6.33 a.m.	20	6	30.12	765.0	30.09	764.3	65.6	18.7	86	6	1	1	.....	.....	3	7	12	1	8156	13125	6	0.83	21.1
Sanford	N. 28 48	W. 81 23	6.34 a.m.	25	8	30.12	765.0	30.11	764.8	52.1	11.2	87	11	5	4	3	3	1	2	1	2	4384	7055	5	3.20	81.3
Gulf states.																												
Atlanta	N. 33 45	W. 84 23	6.22 a.m.	1129	344	28.96	735.6	30.15	765.8	36.3	2.4	84	.....	7	7	4	3	3	4	3	.....	7272	11703	5	3.03	77.0
Pensacola	N. 30 25	W. 87 13	6.11 a.m.	30	9	30.13	765.3	30.12	765.0	47.3	8.5	81	7	5	1	.....	1	1	2	14	.....	4615	7427	6	4.13	104.9
Mobile	N. 30 41	W. 88 02	6.08 a.m.	35	11	30.14	765.5	30.14	765.5	43.9	6.6	88	9	9	4	1	1	2	2	3	.....	5471	8805	5	1.97	50.0
Montgomery	N. 32 23	W. 86 18	6.15 a.m.	219	67	29.94	760.5	30.15	765.8	39.4	4.1	90	9	7	4	2	1	1	6	1	3	3698	5851	4	3.05	77.5
Vicksburg	N. 32 22	W. 90 53	5.56 a.m.	222	68	29.95	760.7	30.17	766.3	41.1	5.1	82	5	3	.....	1	3	8	5	5	1	5249	8447	6	1.76	44.7
New Orleans	N. 29 58	W. 90 04	6.00 a.m.	52	16	30.12	765.0	30.14	765 5	47.6	8.7	83	4	6	1	3	.....	3	9	5	.....	5919	9526	6	2.57	65.3
Shreveport	N. 32 30	W. 93 40	5.45 a.m.	227	69	29.94	760.5	30.15	765.8	40.4	4.7	80	6	3	2	1	5	8	2	2	2	4812	7744	4	1.52	38.6
Fort Smith	N. 35 22	W. 94 24	5.42 a.m.	470	143	29.67	753.6	30.17	766.3	30.2	— 1.0	81	7	1	3	2	.....	.....	14	2	2	4505	7250	4	0.79	20.1
Little Rock	N. 34 45	W. 92 06	5.52 a.m.	288	88	29.86	758.4	30.16	766.1	32.3	0.2	85	4	2	3	1	2	3	3	6	7	4926	7927	5	0.88	22.4
Galveston	N. 29 18	W. 94 47	5.41 a.m.	40	12	30.13	765.3	30.13	765.3	54.3	12.4	83	8	3	1	2	5	5	3	4	.....	6170	9930	5	2.10	53.3
Palestine	N. 31 45	W. 95 40	5.37 a.m.	533	162	29.64	752.8	30.18	766.6	42.6	5.9	80	5	4	2	.....	8	6	3	3	2	7339	11811	5	0.45	11.4
San Antonio	N. 29 27	W. 98 28	5.26 a.m.	781	238	29.33a	745.0	30.13a	765.3	a45.7	7.6	a81	14	1	1	.....	3	1	.....	2	9	5485	8827	a3	0.30	7.6
Brownsville	N. 25 53	W. 97 26	5.30 a.m.	57	17	30.08	764.0	30.09	764.3	55.9	13.3	93	8	.....	1	3	6	5	2	4	.....	5286	8507	2	0.69	17.5
Rio Grande City	N. 26 23	W. 98 48	5.25 a.m.	230	70	29.94	760.5	30.15	765.8	51.6	10.9	81	8	1	1	.....	1	4	2	3	11	2950	4748	2	0.08	2.0
Ohio val. & Tenn.																												
Chattanooga	N. 35 04	W. 85 15	6.19 a.m.	783	239	29.36	745.7	30.18	766.6	33.0	0.6	82	2	7	3	5	4	4	2	3	1	4379	7047	6	3.09	78.5
Knoxville	N. 35 56	W. 83 58	6.24 a.m.	980	299	30.14	765.5	30.19	766.8	30.5	— 0.8	85	4	2	5	1	.....	.....	4	11	4	3878	6241	4	5.34	135.6
Memphis	N. 35 09	W. 90 03	6.00 a.m.	320	98	29.86	758.4	30.18	766.6	33.2	0.7	81	5	9	.....	1	4	7	2	3	.....	5917	9522	5	3.00	76.2
Nashville	N. 36 10	W. 86 47	6.13 a.m.	549	167	29.58	751.3	30.16	766.1	30.6	— 0.8	83	5	6	4	3	4	4	3	1	1	5143	8276	6	1.48	37.6
Louisville	N. 38 15	W. 85 45	6.17 a.m.	551	168	29.58	751.3	30.17	766.3	27.1	— 2.7	79	4	5	1	4	2	5	2	7	1	6096	9810	6	2.69	68.3
Indianapolis	N. 39 46	W. 86 10	6.15 a.m.	766	233	29.34	745.2	30.18	766.6	20.9	— 6.2	85	6	5	1	5	5	4	2	3	.....	4655	7491	5	2.20	55.9
Cincinnati	N. 39 06	W. 84 30	6.22 a.m.	628	191	29.50	749.3	30.18	766.6	24.8	— 4.0	79	6	3	4	5	.....	8	1	2	2	6114	9839	6	1.67	42.4
Columbus	N. 39 58	W. 83 00	6.28 a.m.	812	248	29.27	743.4	30.17	766.3	22.4	— 5.3	76	7	2	5	3	7	2	2	3	.....	5968	9602	5	3.41	86.6
Pittsburg	N. 40 32	W. 80 02	6.40 a.m.	771	235	29.21	741.9	30.12	765.0	26.6	— 3.0	80	10	6	3	.....	8	2	.....	2	.....	5590	8996	7	1.81	46.0
Lake region.																												
Rochester	N. 43 06	W. 77 42	6.49 a.m.	621	189	29.43	747.5	30.13	765.3	20.4	— 6.4	88	1	3	9	11	1	3	3	.....	.....	8933	14376	9	1.89	48.0
Buffalo	N. 42 53	W. 78 53	6.44 a.m.	690	210	29.36	745.7	30.13	765 3	22.1	— 5.5	86	2	2	11	2	4	2	4	4	.....	9584	15424	8	3.26	82.8
Oswego	N. 43 29	W. 76 35	6.54 a.m.	335	102	29.73	755.1	30.12	765.0	20.9	— 6.2	87	1	6	3	6	7	6	1	1	.....	9551	15372	9	2.33	59.2
Erie	N. 42 07	W. 80 05	6.40 a.m.	681	208	29.36	745.7	30.11	764.8	24.2	— 4.3	83	2	5	4	8	4	6	1	1	.....	8421	13552	8	4.04	102.6
Sandusky	N. 41 25	W. 82 40	6.29 a.m.	638	194	29.46	748.3	30.17	766.3	21.1	— 6.1	83	4	1	9	7	4	2	3	1	.....	9189	14788	6	2.97	75.4
Cleveland	N. 41 30	W. 81 42	6.33 a.m.	690	210	29.37	746.0	30.14	765.3	22.7	— 5.2	78	3	3	4	7	6	3	3	2	.....	7183	11560	6	3.57	90.7
Toledo	N. 41 40	W. 83 34	6.26 a.m.	651	198	29.44	747.8	30.16	766.1	18.8	— 7.3	84	4	2	3	14	1	2	1	2	2	6184	9952	5	2.78	70.6
Detroit	N. 42 20	W. 83 03	6.28 a.m.	662	202	29.41	747 0	30.14	765.3	20.8	— 6.2	80	6	4	9	4	1	1	3	3	.....	6213	9999	6	2.21	56.1
Alpena	N. 45 05	W. 83 30	6.26 a.m.	609	186	29.40	746.7	30.09	764.3	18.3	— 7.6	86	1	5	11	9	4	.....	1	.....	.....	6860	11040	8	1.97	50.0
Escanaba	N. 45 48	W. 87 05	6.12 a.m.	608	185	29.41	747.0	30.11	764.8	11.7	—11.3	80	6	13	5	5	1	.....	.....	1	.....	6121	9851	6	0.90	22.9
Grand Haven	N. 43 05	W. 86 18	6.15 a.m.	620	189	29.42	747.3	30.12	765.0	21.1	— 6.1	81	4	5	3	1	6	3	2	5	2	8653	13925	8	1.67	42.4
Mackinaw City	N. 45 47	W. 84 39	6.21 a.m.	605	184	29.38	746.2	30.07	763.8	21.0	— 6.1	76	3	6	7	6	7	.....	1	1	.....	9719	15641	6	0.79	20.1
Marquette	N. 46 34	W. 87 24	6.10 a.m.	672	205	29.32	744.7	30.09	764.3	13.6	—10.2	82	3	8	14	3	3	.....	.....	.....	.....	8807	14173	7	2.79	70.9
Port Huron	N. 43 00	W. 82 26	6.30 a.m.	639	195	29.41	747.0	30.13	765.3	17.1	— 8.3	80	1	4	4	8	8	3	2	.....	.....	8331	13407	6	1.76	44.7
Chicago	N. 41 52	W. 87 38	6.09 a.m.	661	201	29.43	747.5	30.16	766.1	21.6	— 5.8	81	1	4	5	8	8	3	2	.....	.....	5111	8225	6	1.76	44.7
Green Bay	N. 44 31	W. 87 54	6.09 a.m.	616	188	29.46	748.3	30.16	766.1	9.6	—12.4	88	6	3	5	9	4	.....	.....	2	2	5605	9020	6	1.36	34.5
Milwaukee	N. 43 02	W. 87 54	6.08 a.m.	697	212	29.36	745.7	30.15	765.8	13.7	—10.2	84	3	7	11	7	1	1	...	1	.....	8108	13048	5	2.03	51.6
Duluth	N. 46 48	W. 92 06	5.52 a.m.	672	205	29.40	746.7	30.18	766.6	4.7	—15.2	75	.....	9	2	11	3	2	.....	2	2	4174	6717	5	0.93	23.6
Upper Miss. val.																												
Saint Paul	N. 44 58	W. 93 03	5.48 a.m.	831	253	29.24	742.7	30.19	766.8	4.8	—15.1	76	.....	12	1	1	3	2	3	4	2	4	3978	6402	4	1.48	37.6
La Crosse	N. 43 49	W. 91 15	5.55 a.m.	725	221	29.39	746.5	30.22	767.6	12.5	—10 8	80	8	6	2	1	12	.....	1	1	.....	5437	8750	6	0.50	12.7
Davenport	N. 41 30	W. 90 38	5.57 a.m.	615	187	29.51	749.5	30.20	767.1	13.1	—10.5	82	4	8	1	4	4	1	3	3	3	5276	8491	4	0.53	13.5
Des Moines	N. 41 35	W. 93 37	5.46 a.m.	849	259	29.26	743.2	30.20	767.1	15.3	— 9.3	86	13	.....	3	6	1	2	1	3	2	4262	6859	4	0.81	20.6
Dubuque	N. 42 30	W. 90 44	5.57 a.m.	665	203	29.47	748.5	30.22	767.6	9.8	—12.3	77	3	7	5	1	8	1	2	1	3	2980	4796	4	1.03	26.2
Keokuk	N. 40 22	W. 91 26	5.54 a.m.	618	188	29.54	750.2	30.22	767.6	16.7	— 8.5	83	7	7	2	2	6	1	1	2	1	5715	9197	3	1.03	26.2
Cairo	N. 37 00	W. 89 10	6.03 a.m.	359	109	29.81	757.2	30.19	766.8	27.1	— 2.7	82	5	7	3	1	4	5	3	3	.....	6848	11020	7	1.74	44.2
Springfield	N. 39 48	W. 89 39	6.01 a.m.	644	196	29.50	749.2	30.21	767.3	22.3	— 5.4	74	4	6	2	.....	7	4	2	3	3	5937	9555	5	0.80	20.3
Saint Louis	N. 38 38	W. 90 12	5.59 a.m.	571	174	29.57	751.1	30.19	766.8	26.6	— 3.0	70	8	5	1	3	10	.....	.....	3	1	8386	13496	6	2.65	67.3

STATIONS.	Latitude.	Longitude.	Local Time.	Altitude of Barometer above sea		Result of Simultaneous Observations for December 1886.																		Average Cloudiness.	Total Precipitation.	
						Mean Barometer.				Mean Temperature.		Mean Rel. Humidity.	Wind.													
						Actual.		Reduced.					Directions.									Total Movement.				
				Feet.	Metr's	Inch.	Mill.	Inch.	Mill.	Fah.	Cent.		N	NW	W	SW	S	SE	E	NE	C	Miles	Kil.	0–10	Inch.	Mill.
U. States—Con.																										
Missouri valley:	° ′	°																								
Leavenworth	N. 39 19	W. 94 57	5.40 a.m.	842	257	29.31	744.5	30.23	767.8	18.2	—7.7	81	10	5	1	.....	8	2	2	.....	3	5508	8864	4	0.65	16.5
Omaha	N. 41 16	W. 95 56	5.36 a.m.	1113	339	29.00	736.6	30.24	768.1	14.4	—9.8	84	9	5	1	.....	7	2	2	.....	5	5732	9225	4	1.46	37.1
Fort Sully	N. 44 39	W. 100 39	5.17 a.m.	1600	488	28.43	722.1	30.23	767.8	5.0	—15.0	78	2	11	.....	.....	.....	2	3	2	11	5744	9244	5	0.96	24.4
Huron	N. 44 21	W. 98 09	5.27 a.m.	1307	398	28.74	730.0	30.23	767.8	3.2	—16.0	76	4	10	4	.....	1	9	1	1	1	5650	9093	3	0.74	18.8
Yankton	N. 42 54	W. 97 28	5.30 a.m.	1234	376	28.80	731.5	30.19	766.8	10.5	—11.9	78	6	10	2	3	2	3	4	1	.....	5882	9466	4	0.90	22.9
Lamar	N. 37 32	W. 94 15	5.43 a.m.	1028	313	29.08	738.6	30.21	767.3	23.4	—4.8	88	8	.....	1	7	3	3	4	5	.....	7670	12343	4	0.82	20.8
Valentine	N. 42 50	W. 100 32	5.18 a.m.	2604	793	27.35	694.7	30.17	766.3	15.8	—9.0	84	7	7	3	9	3	2	.....	.....	.....	8371	13472	5	0.10	2.5
Moorhead	N. 46 52	W. 96 44	5.33 a.m.	926	282	29.14	740.1	30.23	767.8	—4.2	—20.1	79	6	5	4	3	8	2	.....	3	.....	7173	11544	6	0.53	13.5
Saint Vincent	N. 48 56	W. 97 14	5.31 a.m.	804	245	29.28	743.7	30.24	768.1	—5.3	—20.7	80	5	5	4	1	5	2	1	.....	8	4347	6996	4	0.27	6.9
Bismarck	N. 46 47	W. 100 38	5.17 a.m.	1694	516	28.31	719.1	30.25	768.3	1.0	—17.2	95	3	6	.....	.....	.....	.....	5	4	13	3527	5676	3	0.76	19.3
Fort Buford	N. 48 00	W. 103 56	5.04 a.m.	1930	588	28.05	712.5	30.16	766.1	4.7	—15.2	94	2	5	7	1	4	1	4	6	1	5963	9596	6	0.55	14.0
Fort Totten	N. 47 57	W. 98 57	5.24 a.m.	1487	453	28.49	723.6	30.24	768.1	—4.5	—20.3	85	2	7	6	5	1	1	3	2	4	7557	12162	5	0.38	9.6
Rocky Mount. reg.																										
Ft. Assinnaboine	N. 48 32	W. 109 42	4.41 a.m.	2720	829	27.21	691.1	30.16	766.1	16.8	—8.4	66	1	3	1	18	2	2	.....	4	.....	7970	12812	5	0.62	15.8
Fort Custer	N. 45 42	W. 107 34	4.50 a.m.	3040	927	26.86	682.2	30.12	765.0	21.3	—5.9	84	10	4	2	7	2	5	.....	1	3	5281	8499	6	1.26	32.0
Fort Maginnis	N. 47 12	W. 109 10	4.43 a.m.	4340	1323	25.51	647.9	30.04	763.0	20.6	—6.3	70	1	17	5	2	.....	1	.....	2	3	8860	14258	6	0.44	11.2
Helena	N. 46 34	W. 112 04	4.32 a.m.	4069	1240	25.80	655.3	30.06	763.5	24.4	—4.2	76	2	5	8	12	.....	.....	.....	1	3	4724	7602	6	0.98	24.9
Poplar River	N. 48 08	W. 105 10	4.59 a.m.	2000	610	27.95	709.9	30.21	767.3	0.8	—17.3	88	8	2	10	.....	.....	.....	7	3	1	4347	6996	5	0.67	17.0
Deadwood	N. 44 23	W. 103 43	5.05 a.m.	4600	1402	25.32	643.1	30.13	765.3	22.8	—5.1	82	3	2	2	13	1	.....	.....	10	.....	3544	5703	4	1.51	38.4
North Platte	N. 41 08	W. 100 45	5.17 a.m.	2841	866	27.12	688.8	30.17	766.3	17.2	—8.2	83	.....	8	8	4	.....	6	3	1	.....	5828	9379	2	0.40	10.2
Pike's Peak	N. 38 50	W. 105 02	5.00 a.m.	(4134	4308	17.62	447.5	30.12	765.0	7.0	—13.9	82	6	12	4	1	.....	.....	1	7	.....	23649	38059	3	1.17	29.7
Concordia	N. 39 35	W. 97 41	5.29 a.m.	1384	422	28.68	728.5	30.20	767.1	18.8	—7.3	84	7	2	3	1	5	1	5	2	5	5853	9419	3	0.56	14.2
Denver	N. 39 45	W. 105 00	5.00 a.m.	5294	1614	24.72	627.9	30.05	763.3	32.7	0.4	60	2	3	8	5	9	1	3	.....	.....	6610	10638	2	0.87	22.1
W. Las Animas	N. 38 04	W. 103 12	5.07 a.m.	3899	1188	26.07	662.2	30.13	765.3	17.7	—7.9	92	1	5	11	2	2	1	3	2	4	4001	6439	3	0.07	1.8
Dodge City	N. 37 45	W. 100 00	5.20 a.m.	2524	770	27.48	698.6	30.20	767.1	19.5	—6.9	83	5	4	1	2	3	7	1	8	.....	6393	10288	3	0.25	6.4
Fort Elliott	N. 35 30	W. 100 21	5.19 a.m.	2650	808	27.30	693.0	30.08	764.0	25.9	—3.4	77	3	13	3	1	2	3	.....	.....	6	8231	13246	1	0.09	2.3
Fort Sill	N. 34 40	W. 98 23	5.26 a.m.	1200	366	28.91	734.3	30.18	766.6	28.8	—1.8	73	20	.....	3	5	.....	.....	.....	2	1	9058	14577	3	0.02	0.5
Abilene	N. 32 14	W. 99 45	5.21 a.m.	1748	533	28.31	719.1	30.14	765.5	37.0	2.8	70	8	4	2	9	4	2	.....	2	.....	9417	15155	2	Inap.	Inap.
Fort Davis	N. 30 38	W. 103 56	5.04 a.m.	4928	1502	25.24	641.1	30.09	764.3	41.5	5.3	41	5	.....	.....	15	2	1	1	4	3	6038	9717	1	0	0
Fort Stanton	N. 33 30	W. 105 26	4.58 a.m.	6100?	1859?	24.01	609.8	30.02	762.5	27.2	—2.7	71	1	4	7	2	1	5	.....	1	1	6648	10699	2	0.08	2.0
Plateau region.																										
Keeler	N. 36 35	W. 117 50	4.09 a.m.	3622	1104	26.45	671.8	30.14	765.5	39.9	4.4	58	3	1	1	.....	1	3	6	2	14	1959	3153	2	0	0
Santa Fé	N. 35 41	W. 105 57	4.56 a.m.	7026	2141	23.30	591.8	30.15	765.8	27.5	—2.5	62	8	.....	2	.....	.....	2	2	14	3	5984	9630	1	0.32	8.1
Fort Thomas	N. 33 04	W. 110 02	4.40 a.m.	2710	826	27.37	695.2	30.18	766.6	28.7	—1.8	86	1	1	.....	....	5	16	6	.....	2	1701	2754	1	0.04	1.0
Fort Apache	N. 33 48	W. 109 57	4.40 a.m.	5050	1539	25.12	638 0	30.21	767.3	27.8	—2.3	82	1	.....	.....	.....	.....	3	12	5	10	3576	5755	2	0.24	6.1
Fort Grant	N. 32 39	W. 109 57	4.40 a.m.	4856	1480	25.33	643.3	30.16	766.1	42.9	6.1	46	.....	2	.....	4	.....	1	10	14	.....	4903	7890	3	0.09	2.3
Prescott	N. 34 33	W. 112 28	4.30 a.m.	5389	1643	24.82	630.4	30.18	766.6	30.3	—0.9	83	1	.....	1	6	.....	.....	.....	2	21	2200	3540	1	Inap.	Inap.
Yuma	N. 32 45	W. 114 36	4.22 a.m.	141	43	29.94	760.5	30.06	763.5	51.4	10.8	58	10	2	1	.....	1	.....	6	11	.....	4025	6477	1	0	0
El Paso	N. 31 47	W. 106 30	4.54 a.m.	3764	1147	26.36	669.5	30.15	765.8	37.4	3.0	68	1	.....	6	3	.....	.....	3	2	6	3123	5026	1	0.04	1.0
Fort Bridger	N. 41 28	W. 110 30	4.38 a.m.	6643?	2025?	23.53	597.7	30.15	765.8	25.9	—3.4	77	.....	3	11	13	.....	1	.....	3	.....	9640	15514	4	0.32	8.1
Salt Lake City	N. 40 46	W. 111 54	4.32 a.m.	4348	1325	25.75	654.0	30.22	767.6	33.1	0.6	80	1	1	1	1	2	11	6	5	3	2239	3603	4	1.27	32.3
Frisco	N. 38 25	W. 113 16	4.27 a.m	6400	1950	23.78	604.0	30.07	763.8	35.5	1.9	62	9	2	6	8	1	1	.....	3	1	6058	9749	4	0.05	1.3
Winnemucca	N. 40 58	W. 117 43	4.09 a.m.	4358	1328	25.72	653.3	30.19	766.8	31.9	—0.1	73	1	.....	.....	13	.....	1	3	12	1	6436	10358	5	0.83	21.1
Montrose	N. 38 30	W. 107 56	4.48 a.m.	5780	1762	24.38	619.2	30.18	766.6	26.1	—3.3	73	.....	1	1	2	2	21	3	.....	1	3176	5111	4	0.50	12.7
Fort Bidwell	N. 41 53	W. 120 11	3.59 a.m.	4640	1414	25.46	646 7	30.18	766.6	35.7	2.1	90	1	10	6	7	4	2	.....	1	.....	4742	7631	7	4.25	108.0
Boisé City	N. 43 37	W. 116 08	4.15 a.m.	2750	838	27.29	693.2	30.20	767.1	35.1	1.7	83	1	3	5	.....	2	9	2	.....	9	2672	4300	6	2.64	67.0
Spokane Falls	N. 47 40	W. 117 25	4.10 a.m.	1909	582	28.02	711.7	30.09	764.3	32.5	0.3	90	6	2	2	9	5	.....	1	4	2	3048	4905	7	3.87	98.3
Walla Walla	N. 46 03	W. 118 18	4.07 a.m.	1018	310	28.99	736.3	30.10	764.5	37.6	3.1	80	1	1	1	17	4	5	1	.....	1	4622	7438	6	4.41	112.0
Pacific coast reg'n.																										
Fort Canby	N. 46 16	W. 124 04	3.44 a.m.	179	55	29.74	755.4	29.94	760.5	45.8	7.7	94	.....	1	2	11	6	10	.....	.....	1	13373	21521	9	17.35	440.7
Olympia	N. 47 03	W. 122 53	3.48 a.m.	36	11	29.93a	760.2a	29.97a	761.2a	43.3a	6.3a	95a	2	1	.....	2	20	.....	.....	2	4	3354	5382	8	13.38	339.9
Port Angeles	N. 48 07	W. 123 06	3.48 a.m.	14	4	29.91	759.7	29.93	760.2	39.1	3.9	97	.....	.....	1	2	25	1	2	.....	.....	2356	3792	7	7.71	195.8
Tatoosh Id	N. 48 23	W. 124 44	3.41 a.m.	86	26	29.78	756.4	29.88	758 8	45.7	7.6	00	1	3	.....	4	2	14	7	.....	.....	12452	20039	8	25.84	656.3
Portland	N. 45 32	W. 122 43	3.49 a.m	80	24	29.94	760.5	30.04	763.0	43.1	6.2	92	3	6	1	.....	13	4	2	.....	2	3995	6429	9	11.92	292.6
Roseburg	N. 43 13	W. 123 20	3.47 a.m.	523	159	29.53	750 0	30.10	764 5	43.6	6.4	92	.....	2	1	3	5	6	3	5	6	2078	3344	6	7.30	185.4
Cape Mendocino	N. 40 26	W. 124 24	3.42 a.m.	637	194	29.42	747.3	30.10	764.5	48.8	9.3	90	7	.....	.....	.....	8	13	1	1	1	18815	30279	5	3.49	88.6
Eureka	N. 52 08	W. 0 27	0.06 p.m.	109	143	30.07	763.8	.....	.....	49.4	9.7	91	.....	.....	1	2	6	6	2	.....	14	.....	.....	6	9.78	248.4
Red Bluff	N. 40 10	W. 122 15	3.51 a.m.	342	104	29.81	757.2	30.15	765.9	45.8	7.8	86	9	5	1	4	5	.....	.....	.....	7	3862a	6215a	6	3.92	99.6
Sacramento	N. 38 35	W. 121 30	3.54 a.m.	64	20	30.10	764.5	30.16	766.1	44.9	7.2	91	4	6	.....	3	1	11	.....	1	5	3294	5301	4	2.21	56.1
San Francisco	N. 37 48	W. 122 26	3.50 a.m.	60	18	30.12a	765.0a	30.16a	766.1a	50.4a	10.2a	89a	7a	3	3	3	4	8	1	1	.....	3939	6339	a6	2.07	52.6
Los Angeles	N. 34 03	W. 118 15	4.07 a.m.	339	103	29.75	755.6	30.08	764.0	49.0	9.4	84	3	1	2	.....	.....	.....	.....	3	19	3	3671	5908	2	0.26	6.6
San Diego	N. 32 43	W. 117 10	4.11 a.m.	67	20	30.23	767.8	30.07	763.7	51.6	10.9	89	1	.....	.....	.....	3	2	1	7	17	2719	4376	4	0.10	2.5
Sitka	N. 57 03	W. 135 19	2.59 a m.	63	19	29.59	751.6	29.69	754.1	36.1	2.3	70	1	.....	.....	.....	.....	7	11	8	4	9763	15712	5	3.26	82.8
Sub-Series.																										
Bogota	N. 4 36	W. 74 14	7.11 a.m.	8655	2638	22.02	559.2	.....	.....	66.0	18.9	82	.....	.....	.....	1	1	.....	.....	29	.....	.....	.....	4	.....	.....
Kingston	N. 18 01	W. 76 48	6.53 a.m.	10	3	30.03	762.7	29.98	761.5	70.7	21.5	89	.....	.....	.....	.....	.....	.....	.....	.. ..	.....	.....	.....	8	0.70	17.8
Paramaribo	N. 5 50	W. 55 13	8.19 a.m.	6	2	30.16	766.1	29.97	761.2	79.7	26.5	84	.....	.....	.....	.....	.....	21	10	.....	.....	.....	.....	6	12.13	308.1
Rivas	N. 11 26	W. 85 47	6.17 a.m.	150	46	.....	.....	.....	.....	74.2	23.4	77	a	.....	.. ..	.....	.....	.....	1	29	.....	.....	.....	3	0.49	12.4
San José	N. 9 56	W. 84 00	6.24 a.m.	.....	.....	.....	.....	.....	.....	61.8	16.6	.....	23	.....	.....	.....	.....	.....	.....	8	.....	.....	.....	.....	2.40	61.0
Vera Cruz	N. 19 11	W. 96 09	5.35 a.m.	16	5	30.05	763.3	30.07	763.8	.....	.....	.....	7	1	4	3	2	1	.....	.....	13	.....	.....	2	.....	.....

SUMMARY OF OBSERVATIONS TAKEN AT CHILIAN STATIONS, JANUARY TO MARCH, 1886.

JANUARY, 1886.	° ′	° ′																								
Coquimbo	S. 29 56	W. 71 21	7.30 a.m.	74	22	29.89	759.2	29.93	760.2	62.4	16 9	86	9	1	1	5	.....	2	1	7	5	.....	.....	7	.....	.....
Iquique	S. 20 12	W. 70 11	7.30 a.m	30	9	20.91	759.8	29.88	758.9	69.3	20.7	77	.....	2	1	15	8	.....	.....	.....	5	.....	.....	7	0	0
Niebla	S 39 53	W. 73 25	7.30 a.m.	98	30	29.47	748.4	29.56	750.8	57.9	14.4	88	4	5	4	.....	.....	.....	17	.....	1	.....	.....	3	6.25	158.6
Punta Caldera	S. 27 03	W. 70 53	7.30 a.m.	44	13	29.85	758.1	29.88	758.9	66.7	19.3	82	1	8	.....	7	.....	5	1	9	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 46	W. 73 53	7.30 a.m.	174	52	29.88	758.9	30.06	763.5	56.5	13.6	.....	5	9	7	8	2	...	.....	.....	.....	.....	.....	8	6.38	162.0
Quiriquina	S. 36 37	W. 73 03	7.30 a.m.	190	57	29.80	756.9	29.98	761.5	65.5	18.6	68	2	4	2	5	12	4	1	.....	1	.....	.....	3	0.54	13.6
Valparaiso	S. 33 03	W. 71 36	7.30 a.m.	131	40	29.83	757.7	29.95	760.7	58.3	14.6	84	1	.....	.....	4	1	1	.....	.....	24	.....	.....	4	.....	.....
FEBRUARY, 1886.																										
Coquimbo	S. 29 56	W. 71 21	7.30 a. m.	74	22	29.86	758.5	29.90	759.4	63.0	17.2	84	5	.....	.....	3	.....	2	8	2	8	.....	.....	5	.....	.....
Iquique	S. 20 12	W. 70 11	7.30 a. m.	30	9	29.85	758.1	29.81	757.2	67.1	19.5	79	1	1	.....	6	7	.....	.....	13	.....	.....	.....	4	0	0
Niebla	S. 39 53	W. 73 25	7.30 a. m.	98	30	29.55	750.6	29.65	753.1	58.5	14.7	81	1	4	2	.....	.....	.....	19	.....	2	.....	.....	3	1.05	26.6
Punta Caldera	S. 27 03	W. 70 53	7.30 a. m.	44	13	29.81	757.1	29.84	757.9	71.6	22.0	83	.....	7	.....	3	1	7	1	9	.....	.....	.....	5	0	0
Punta Corona	S. 41 46	W. 73 53	7.30 a. m.	174	52	29.93	760.1	30.10	764.5	55.0	12.8	.....	1	3	3	9	2	2	.....	4	4	.....	.....	6	2.28	57.8
Quiriquina	S. 36 37	W. 73 03	7.30 a. m.	190	57	29.72	754.8	29.90	759.4	63.0	17.2	74	3	3	.....	2	9	3	2	.....	6	.....	.....	5	0.73	18.6
Valparaiso	S. 33 01	W. 71 39	7.30 a. m.	131	40	.....	.....	.....	.....	.....	.....	.....	1	1	1	2	2	.....	.....	1	19	.....	.....	3	0	0
MARCH, 1886.																										
Coquimb	S. 29 56	W. 71 21	7.30 a. m.	74	22	29.89	759.1	29.93	760.2	59.4	15.2	87	5	2	3	1	.....	6	8	2	4	.....	.....	3d	0	0
Iquique	S. 20 12	W. 70 11	7.30 a. m.	30	9	29.90	759.4	29.87	758.7	65.1	18.4	88	.....	1	.....	4	9	.....	1	.....	16	.....	.....	5	0	0
Niebla	S. 39 53	W. 73 25	7.30 a. m.	98	30	29.54	750.4e	29.64	752.8	56.1	e13.4	e89	2	4	2	.....	.....	.....	17	.....	61	.....	.....	5f	e8.66	e220.0
Punta Calder	S. 27 03	W. 70 53	7.30 a. m.	44	13	29.90	759.5	29.94	760 5	64.8	18.2	82	2	4	.....	6	.....	1	3	15	.....	.....	.....	7	.....	.....
Punta Corona	S. 41 46	W. 73 53	7.30 a. m.	174	52	29.90	759.4	30.08	764.0	55.0	12.8	.....	1	13	2	2	1	6	.....	6	.....	.....	.....	7	5.16	131.2
Quiriquina	S. 36 37	W. 73 04	7.30 a. m.	190	57	29.53	750.0	29.70	754 4	61.0	16.1	80	5	4	3	1	11	2	1	.....	4	.....	.....	5e	2.49	63.3
Valparaiso	S. 33 01	W. 71 39	7.30 a. m.	131	40	29.85	758 2	29.97	761.2	54.7	12.6	84	1	.....	2	2	2	.....	.....	.....	24	.....	.....	3e	2.08	52.9

OCEAN SQUARE DATA FOR DECEMBER, 1886.

Location of Centre of each Square.	Barometer.		Temperature.		Wind Frequency.										Wind force 0–10.
	Inch.	Mill.	Fah.	Cent.	N.	NW.	W.	SW.	S.	SE.	E.	NE.	Calm.	Blank.	
N. 12.5 W. 22.5															
12.5 27.5															
12.5 32.5															
12.5 37.5	29.96	761.0									25	6			4.3
12.5 42.5	29.96	761.0								1	25	5			4.3
12.5 47.5	29.96	761.0								5	22	4			4.4
12.5 52.5	29.94	760.5								1	27	3			4.5
17.5 22.5															
17.5 27.5															
17.5 32.5															
17.5 37.5	30.04	763.0			1					3	20	7			4.4
17.5 42.5	30.04	763.0								2	22	6	1		4.4
17.5 47.5	30.04	763.0								5	19	6	1		4.5
17.5 52.5	30.02	762.5								5	24	1	1		4.5
17.5 57.5	29.99	761.7								2	28	1			4.6
22.5 22.5															
22.5 27.5	30.09	764.3			4	3			1	3	15	5			4.4
22.5 32.5	30.10	764.5			4	1	1			4	16	5			4.5
22.5 37.5	30.12	765.0			1	1			2	4	15	8			4.7
22.5 42.5	30.12	765.0			2				1	7	12	8		1	4.6
22.5 47.5	30.12	765.0								7	18	6			4.5
22.5 52.5	30.11	764.8								6	25				4.5
22.5 57.5	30.08	764.0			1					7	23				4.4
22.5 62.5	30.07	763.8								5	22	4			4.9
22.5 67.5															
22.5 72.5															
27.5 22.5	30.11	764.8			1	3	3		1	1	11	11			4.2
27.5 27.5	30.14	765.5			2	6		1		2	15	5			4.7
27.5 32.5	30.17	766.3			4	3		1		5	13	5			4.9
27.5 37.5	30.19	766.8			3	2				10	7	9			5.3
27.5 42.5	30.20	767.1			6				1	12	4	8			5.0
27.5 47.5	30.21	767.3			3				1	9	11	7			4.7
27.5 52.5	30.19	766.8			1				2	10	14	4			4.4
27.5 57.5	30.17	766.3			2		1	1	3	12	7	5			4.1
27.5 62.5	30.15	765.8			2			1	5	7	8	8			4.5
27.5 67.5	30.12	765.0			1	1		3	5	7	6	6	2		4.7
27.5 72.5	30.09	764.3				2	3	3	2	8	3	9	1		4.4
27.5 77.5															
32.5 12.5															
32.5 17.5															
32.5 22.5															
32.5 27.5	30.18	766.6			7	5		2	1	2	9	4		1	4.7
32.5 32.5	30.22	767.6			7	1		2	3	4	8	6			4.9
32.5 37.5	30.25	768.3			4	1	1	2		10	5	8			5.1
32.5 42.5	30.26	768.6			6	1	1	2	2	11	1	7			4.9
32.5 47.5	30.26	768.6			4	3	1	1	8	3	6	5			4.6
32.5 52.5	30.24	768.1			2	1	3	3	4	6	5	7			4.5
32.5 57.5	30.21	767.3			2	2	4	4	7	4	3	5			4.6
32.5 62.5	30.17	766.3			2	4	1	5	8	3	4	4			4.7
32.5 67.5	30.12	765.0			8	3	2	6	3	5	3	1			4.9
32.5 72.5	30.10	764.5			6	4	3	4	1	6	2	3	2		4.5
32.5 77.5															
37.5 12.5															
37.5 17.5															
37.5 22.5															
37.5 27.5															
37.5 32.5	30.23	767.8			5	3	6	1	4	4	5	3			4.8
37.5 37.5	30.27	768.8			4	4	4	3	2	5	3	4	1	1	4.6
37.5 42.5	30.27	768.8			1	3	5	5	3	4	3	6	1		4.7
37.5 47.5	30.25	768.3			3	5	1	6	7	1	3	5			4.6
37.5 52.5	30.23	767.8			6	3	3	8	3	7		1			5.1
37.5 57.5	30.16	766.1			3	7	1	9	8	1	1	1			5.5
37.5 62.5	30.11	764.8			3	7	3	7	5	3	1	2			5.4
37.5 67.5	30.08	764.0			3	10	3	8	1	3	1	2			5.3
37.5 72.5															
42.5 12.5															
42.5 17.5															
42.5 22.5	30.15	765.3			2	5	9	3	1	3	1	7			5.1
42.5 27.5	30.15	765.8			1	6	6	4	5	1	2	6			5.2
42.5 32.5	30.18	766.6			1	5	6	7	3	1		8			5.1
42.5 37.5	30.22	767.6			2	4	6	9	4	3		3			4.7
42.5 42.5	30.20	767.1			4	6	5	10	2	1		3			5.4
42.5 47.5	30.17	766.3			1	9	4	7	4	1	2	3			5.2
42.5 52.5	30.14	765.5			3	7	4	8	5	1	1	2			5.3
42.5 57.5	30.09	764.3			3	7	3	4	5	4		4		1	5.4
42.5 62.5															
42.5 67.5															
47.5 12.5															
47.5 17.5	29.98	761.5			4	4	14	3	2			4			5.7
47.5 22.5	30.02	762.5			2	5	11	5	1			7			5.6
47.5 27.5	30.06	763.5			1	5	10	7	1		2	4	1		5.8
47.5 32.5	30.04	763.0				5	8	10	3		2	3			5.9
47.5 37.5	30.04	763.0			1	8	7	9	1	1	1	3			6.1
47.5 42.5	30.03	762.7			4	6	10	9	1	1					6.2
47.5 47.5	30.01	762.2			1	7	9	9	3	2					5.9
52.5 12.5															
52.5 17.5	29.81	757.2			1	11	7	7		1		4			5.9
52.5 22.5	29.85	758.2			3	7	8	8	1			4			5.9
52.5 27.5	29.88	758.9			1	9	6	11		1	1	2			5.7
52.5 32.5	29.86	758.4				9	8	8	3	1		2			5.8
52.5 37.5	29.87	758.7				12	6	5	6	1	1				5.7
52.5 42.5	29.87	758.7				9	8	10	2	1		1			5.8
52.5 47.5	29.85	758.2				9	7	8	5	1	1				5.5
57.5 12.5	29.61	752.1			5	5	6	6		2	1	5	1		5.8
57.5 17.5	29.63	752.6			2	8	9	5		2	1	4			6.0
57.5 22.5	29.67	753.6			3	9	5	7		2	1	4			5.6
57.5 27.5	29.70	754.4			1	7	10	5	2	1	1	4			5.6
57.5 32.5	29.71	754.6			1	10	4	8	2	3	1	2			5.7
57.5 37.5	29.71	754.6			2	9	3	11	1	2	1	2			5.4
57.5 42.4	29.70	754.4			3	9	4	9	2	1	2			1	5.0
57.5 47.5	29.69	754.1			1	9	7	6	3	2	1	1		1	4.8

OCEAN SQUARES.—The table of ocean square data shows (1) the location of the centres of squares whose sides extend 5° each in latitude and longitude, (2) the monthly mean pressure and temperature of the air, and the mean force and total frequency of the wind at noon, Greenwich mean time, computed for the centre of each square from daily readings as obtained by interpolation between the isobars and isotherms of the daily international simultaneous weather maps.

REVIEW.

INTERNATIONAL METEOROLOGY FOR DECEMBER, 1886.

[*Pressure expressed in inches and millimetres; temperature in degrees, Fahrenheit and Centigrade; wind-force by scale of* 0–10.]

The following refers to chart ii for the month of December, 1886. This chart continues the series of international charts begun in January 1877, and exhibits the mean pressure and the prevailing wind-directions over the northern hemisphere, as determined from simultaneous observations taken once each day at 7 a. m., 75th meridian, or noon Greenwich, mean time:

The isobar of 29.50 (749.3), by which the area of lowest mean barometric pressure is bounded, is traced southeastward from Iceland to the northern extremity of Denmark, whence it trends northward over Scandinavia. The lowest mean pressure within this area is 29.46 (748.3) at Bergen, Norway. A second area of low mean pressure occupies the Sea of Okhotsk, with minimum 29.66 (753.4) at Nikolaievsk. Two areas of relatively low mean pressure, with included values below 29.90 (759.4), appear, one extending over the southern extremity of British India, and the other embracing the Pacific coast of North America north of the fiftieth parallel.

The area of highest mean pressure is charted over central Asia, with maxima rising to 30.47 (773.9) at Irkutsk. Two areas of high mean pressure, bounded by isobars of 30.20 (767.1), are located over the north Atlantic Ocean and the interior of the North American continent, respectively.

In the United States the mean pressure is highest in the upper Mississippi and Missouri valleys, where it varies from 30.20 (767.1) to 30.25 (768.3), and over southern Idaho, southeastern Oregon, and the northern part of Nevada and Utah, where it rises above 30.20 (767.1). The area of minimum pressure covers the western part of Washington Territory, with included values falling to 29.88 (758.9) at Tatoosh Island. In the British Possessions in North America the pressure is highest over Manitoba, where it rises to 30.26 (768.6) at Fort Garry, and low over northern Newfoundland, Labrador, and British Columbia, where it falls below 29.90 (759.4). Over the north Atlantic Ocean there is a gradient of .81 of an inch between the west coast of Norway and the thirty-eighth parallel, west of the Azores. Over Europe there is a steep barometric gradient from the Norwegian coast eastward toward the area of high pressure overlying central Asia, and southeastward to the Caspian Sea, where maxima 30.27 (768.8) are shown. Over Asia there is a gradient of .81 of an inch between Irkutsk and the mouth of the Amoor River, while from Irkutsk southwestward to southern British India, and southeastward to the Philippine Islands, a range of .59 of an inch is shown.

When compared with the chart for the preceding month, marked changes are shown in the positions and included values of high and low barometer areas over the North American continent. The area of low pressure which appeared east of the seventy-fifth meridian and north of the forty-ninth parallel in November has moved eastward, attended over Canada by an increase in pressure of .10 to .20 of an inch. Over the western part of the continent there has been a decided eastward movement of an area of high pressure which occupied a limited area over portions of Washington Territory and Oregon in November; the transition occasioning a decrease in mean pressure of about .20 of an inch along the north Pacific coast, and an increase to the eastward of the Rocky Mountains. Over the north Atlantic Ocean there has been a decrease of .20 of an inch within the area of low mean pressure, which has remained nearly stationary between Iceland and Norway, while the area of high pressure over the Azores has greatly expanded, with slight changes in included values. Over Europe there has been a general decrease in mean pressure, except over the Spanish Peninsula and in the vicinity of the Caspian Sea, where the readings correspond closely with those of November. Over Asia there has been a decrease in mean pressure of about .30 of an inch over the Sea of Okhotsk; within the area of high pressure which occupies the interior of the continent the decrease averages about .10 of an inch, while over British India and the Philippine Islands there has been a slight increase.

The following table shows the mean pressure and mean temperature for December, 1886, in the several countries of the eastern hemisphere, and the departures as compared with the means determined from observations taken during the last nine years:

Countries.	Mean pressure.			Mean temperature.		
	Dec. mean of 9 (1877–'85) years.	Dec., 1886.	Departure.	Dec. mean of 9 (1877–'85) years.	Dec., 1886.	Departure.
				°	°	°
Austro-Hungary	30.07	29.84	— 0.23	34.1	39.8	+ 5.7
British Isles	29.97	29.69	— 0.28	40.6	39.5	— 1.1
Denmark	29.88	29.54	— 0.34	35.4	34.3	— 1.1
France	30.10	29.89	— 0.21	42.4	42.7	+ 0.3
Germany	30.01	29.76	— 0.25	34.6	36.2	+ 1.6
India	29.95	29.95	normal.	70.6	71.6	+ 1.0
Italy	30.03	29.87	— 0.16	48.0	49.1	+ 1.1
Japan	.....	30.00	.....	.....	34.9	.....
Norway	29.73	29.48	— 0.25	31.3	27.8	— 3.5
Russia	30.01	29.89	— 0.12	26.9	35.0	+ 8.1
Spain*	30.14	30.00	— 0.14	50.3	50.3	normal.
Sweden	29.80	29.56	— 0.24	25.0	25.3	+ 0.3

* Means for eight years only.

The accompanying table shows the deviations in pressure and temperature at isolated stations during the month of December, 1886, as compared with the means for nine years:

Stations.	Mean pressure.			Mean temperature.		
	Dec. mean of 9 (1877–'85) years.	Dec., 1886.	Departure.	Dec. mean of 9 (1877–'85) years.	Dec., 1886.	Departure.
				°	°	°
Astrakhan, Russia	30.21	30.27	+ 0.06	29.8	38.7	+ 8.9
Archangel, Russia	29.85	29.63	— 0.22	14.4	20.3	+ 5.9
Athens, Greece	30.01	29.99	— 0.02	55.2	59.9	+ 4.7
Beirut, Turkey in Asia	30.00	30.07	+ 0.07	64.8	64.6	— 0.2
Barnaul, Siberia	30.43	30.43	normal.	9.8	13.3	+ 3.5
Bridgetown, Barbadoes	.....	29.86	.....	.....	81.9	.....
Ekaterinburg, Russia	30.21	30.21	normal.	10.0	22.1	+12.1
Fort Napier, Natal, S. Africa *	29.78	29.87	+ 0.09	81.7	75.7	— 6.0
Funchal, Madeira Islands *	30.14	30.10	— 0.04	65.5	64.8	— 0.7
Gibraltar †	30.14	30.12	— 0.02	53.0	59.7	+ 6.7
Godthaab, Greenland	.....	29.52	.....	17.5	17.5	normal.
Havana, Cuba, W. I.	30.05	30.06	+ 0.01	69.6	65.9	— 3.7
Malta, Mediterranean Sea	29.99	29.96	— 0.03	61.0	58.6	— 2.4
Melbourne, New South Wales	29.88	30.01	+ 0.13	60.2	61.0	+ 0.8
Mauritius, Indian Ocean	29.90	29.93	+ 0.03	79.9	79.7	— 0.2
Mexico, Mexico*	30.25	30.26	+ 0.01	45.4	45.0	— 0.4
Nassau, Bahamas, W. I.	30.08	30.08	normal.	71.7	71.2	— 0.5
Nikolaievsk-on-the-Amoor, Asia	.....	29.66	.....	— 5.4	— 3.3	+ 2.1
Paramaribo, D. Guiana, S. A	29.93	29.97	+ 0.04	78.9	79.7	+ 0.8
Ponta Delgada, Azores	30.16	30.17	+ 0.01	62.5	60.8	— 1.7
San Juan de Puerto Rico, W. I.	29.97	29.99	+ 0.02	75.7	74.7	— 1.0
Stykkisholm, Iceland	29.58	29.53	— 0.05	27.9	25.2	— 2.7
Tashkend, Toorkistan, Asia	30.34	30.35	+ 0.01	35.8	35.8	normal.
Thorshavn, Färöe Islands	29.69	29.49	— 0.20	39.2	33.8	— 5.4
Tiflis, Russia	30.19	30.25	+ 0.06	44.0	48.0	+ 4.0
Tokio, Japan	29.99	29.95	— 0.04	39.3	39.4	+ 0.1
Yeniseisk, Siberia	30.46	30.32	— 0.14	3.3	12.2	+ 8.9
Zi-Ka-Wei, China	.....	30.31	.....	.....	38.8	.....

* Means for eight years only. † Barometer means for six years only.

In the United States the mean pressure was generally above the normal, although the excess was nowhere very great. In the northern plateau region and along the north Pacific coast the mean pressure for the month was below normal, the largest departure being .10 of an inch at Tatoosh Island. In Canada the mean pressure was above the normal at all stations. The greatest excess was at Sydney, C. B., .15, and the least at Parry Sound, .04 of an inch. Over the British Isles the mean pressure averaged .28 of an inch below the normal for nine years. Over the continent of Europe the mean pressure was deficient by average amounts varying from .12 over Russia and .14 over Spain to .34 of an inch over Denmark. In British India the mean pressure was normal, while at Tokio, Japan, it was slightly below normal. In Siberia the departures were generally small and below normal.

Over the United States, east of the one hundred and fifth meridian, the mean temperature was below the normal, while to the westward of that meridian the month was warmer than

the average December. In Canada the mean temperature was below the normal, except in Nova Scotia and British Columbia. The greatest defect occurred at Rockliffe, 8°.3, and the greatest excesses at Victoria, B. C., 4°.0, and Halifax, N. S., 3°.0. Over the British Isles the temperature was 1° to 2° below the normal. Over the continent of Europe the greatest excess, 8°.1, occurred in Russia, and the largest defect, 3°.5, in Norway. In British India the mean was slightly in excess of the normal.

In the United States the winds were mostly from north to northwest in the Missouri and upper Mississippi valleys; in the Lake regions the prevailing direction was west; in New England and the middle Atlantic states, northwest. In other portions of the country the winds were variable. In Canada westerly winds prevailed east of the ninetieth meridian. Over the north Atlantic Ocean, north of the fortieth parallel, the winds were westerly, while over the ocean to the southward they were anti-cyclonic. Over Europe the winds were mostly from south to west. Over British India they were variable, while over the Japanese Islands north to west winds were most frequently noted.

In the United States the precipitation was about normal, except in California and the south Atlantic and Gulf states, where it was deficient, and in the north Pacific coast region, where it was excessive. In Canada the rainfall was hardly one-half the average quantity in Ontario; in Quebec and the Maritime Provinces it considerably exceeded the normal; in Manitoba very little rain fell; while in British Columbia the rainfall was almost phenomenal both as regards amount and number of days. In the British Isles there was an excess of precipitation at all stations.

TRACKS OF AREAS OF LOW PRESSURE FOR DECEMBER, 1886.

Chart iii exhibits paths of the principal depressions which appeared in the northern hemisphere during December, 1886. This chart continues the series of international charts begun in November, 1877, and has been prepared from the following data: Chart i for each day of the month, containing the data of simultaneous observations taken once each day at noon, Greenwich mean time; abstracts of ships' logs; special reports, and other miscellaneous data on file at this office.

The paths of the centres of thirty-five areas of low pressure are shown, of which, eleven are traced over the North American continent; eleven over the north Atlantic Ocean; nine over Europe; and four off the eastern coast of Asia, or over the north Pacific Ocean. The average number of areas of low pressure traced over the North American continent for the month of December during the last fourteen years is 12.4, or 1.4 more than the number traced for December, 1886. The American storms of December, 1886, are described in the MONTHLY WEATHER REVIEW for that month, under the heading "Areas of low pressure."

Of the eleven depressions traced over the north Atlantic Ocean, six were continuations of areas of low pressure which first appeared over the North American continent; three apparently originated in the vicinity of Iceland; one is first charted over the southern extremity of Greenland, and one developed northwest of the Azores. Five depressions traversed the ocean from coast to coast, two of which advanced from the Saint Lawrence Valley to Greenland, and thence moved eastward to the Norwegian coast. As is usual during the month of December, a large proportion of the depressions traced pursued tracks to the northward of the sixtieth parallel. The disturbances which attended the passage of depressions over the eastern portion of the ocean were exceptionally severe.

Of the nine depressions traced over Europe, three advanced eastward over the British Isles and the North Sea; two moved southeast over southern Norway; one passed south of east to the White Sea; one was a continuation of ocean storm number xvii, which is traced eastward over the southern part of the Spanish Peninsula under date of the 20th, and two first appeared over the Mediterranean Sea west of Italy. The depressions traced over the British Isles and the North Sea occasioned storms of great violence, notably on the 7th, 8th, 9th, and during the 26th and 27th, and the barometric readings which attended the passage of depression number xiv on the 8th were reported as being the lowest ever observed in Great Britain. At Orme's Head a minimum of 27.45 (697.2) was noted at sunset, while at Liverpool the barometer stood at 27.48 (698.0). At Leith Navigation School the lowest reading was 27.65 (702.3) at 19 hours 30 minutes, and in the north of Ireland a minimum of about 27.30 (693.4) was reported. This depression apparently moved southeast from north of the sixtieth parallel, but reports will not admit of locating its centre previous to the 8th.

Of the four depressions traced off the eastern coast of Asia or over the north Pacific Ocean, one, number xxxv, is an approximated path of a typhoon as charted by Prof. William Doberck, government astronomer at Hong-Kong; two moved east of north over the Sea of Japan, and one passed along the east coast of the Japanese Islands. The depressions were unattended by noteworthy features. Areas of low pressure occupied the Sea of Okhotsk and the Pacific Ocean near Sitka, Alaska, during a large portion of the month.

SPECIAL NOTES.

THE GRAVITY CORRECTION.

The gravity correction, reducing all barometer readings to the standard gravity at latitude 45°, has been applied to all observations not so reduced by the observers themselves.

All data referring to force, velocity, or pressure (in pounds per square foot) of the wind, are reduced to the scale of 0-10, and the approximate value is indicated by the number of feathers on the arrow (see below).

MONTHLY SUMMARY OF INTERNATIONAL SIMULTANEOUS METEOROLOGICAL OBSERVATIONS.

The positions of stations (latitude and longitude) are obtained from Keith Johnson's "Index Geographicus," except where more exact information is furnished. The elevations of stations are obtained either from the annual, semi-annual, and monthly publications of the various meteorological bureaus here represented, or from the original forms upon which are entered the daily observations. In the United States series the elevations are computed from the latest surveys, and are carefully revised each month, in order to note any change in the elevation of the barometer-cistern at any station. It is believed for the most part that, throughout the European and other series, the elevations as given represent the height of the barometer-cistern above sea-level; at least this should be the case. The local time, where omitted or not given correctly in the original, is carefully computed at this office. A letter placed opposite the name of a station, or some portion of the data credited thereto, indicates that a certain number of observations are missing, corresponding to the relative position in the English alphabet of the letter so used.

At Astrakhan, Ashurada, and Baku the barometer-cisterns are below sea-level.

INTERNATIONAL CHARTS.

International chart i shows the atmospheric pressure at sea-level in English inches, the isobars being drawn for every two-tenths of an inch.

Arrows show direction of, and fly with, the wind; force is shown as follows:

Symbols.	Force.	Velocity.	
		Miles per hour.	Metres per second.
○	0	0	0
→	1, 2	0 to 9	0 to 4
→	3, 4	9.1 to 22.5	4.1 to 10.1
→	5, 6	22.6 to 40.5	10.1 to 18.1
→	7, 8	40.6 to 67.5	18.1 to 30.2
→	9, 10	67.6 up.	30.2 and over.

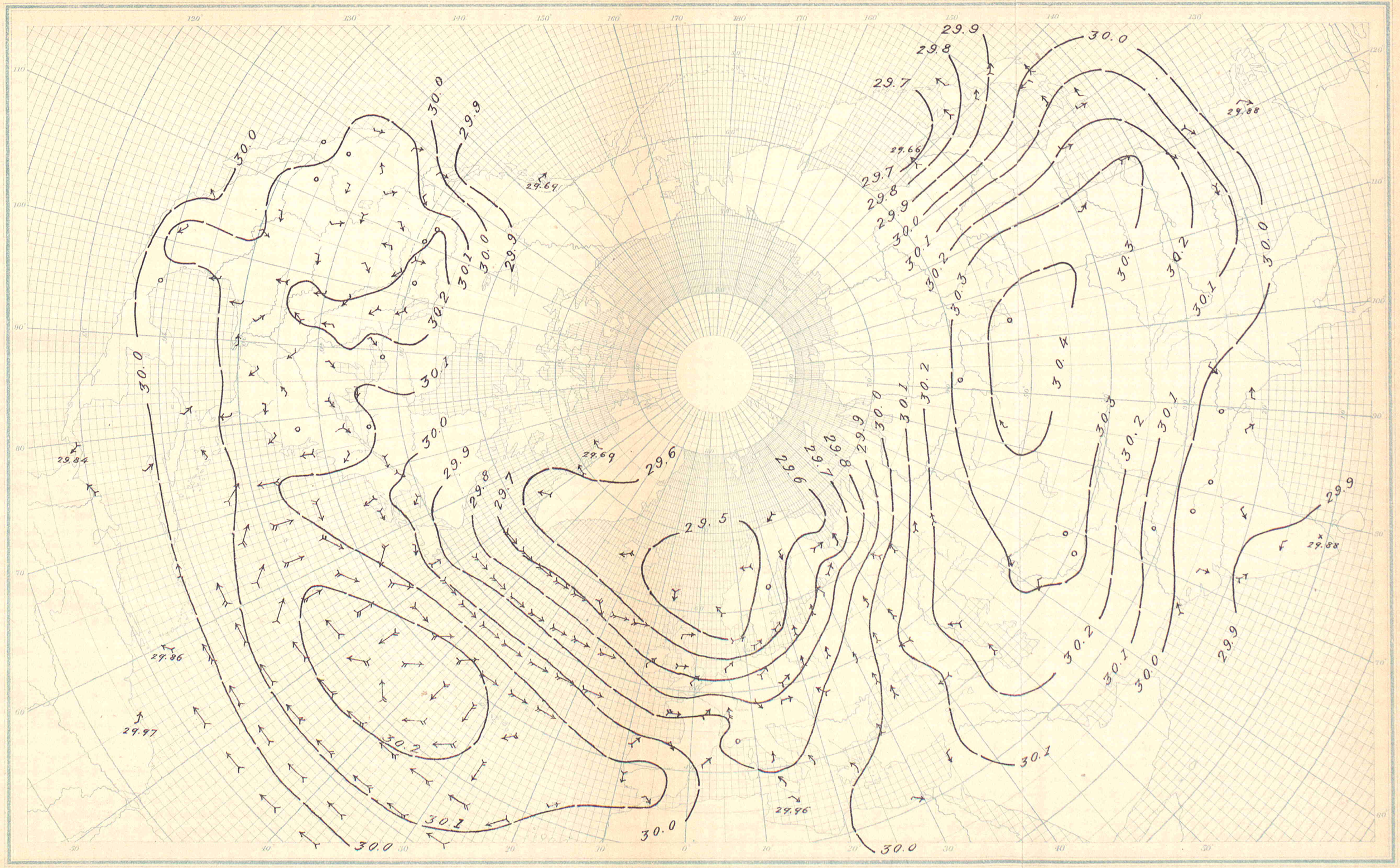
International chart ii (monthly mean chart) shows the mean pressure at sea-level in English inches; the mean force and prevailing direction of the wind, as determined from observations taken at noon, Greenwich mean time.

International chart iii shows the tracks of centres of low pressure. The Arabic numerals show the location of the centres of low pressure at noon, Greenwich mean time, of that date.

In the above charts, broken lines indicate that lines so drawn are doubtful.

Form No. 106 R---1887.

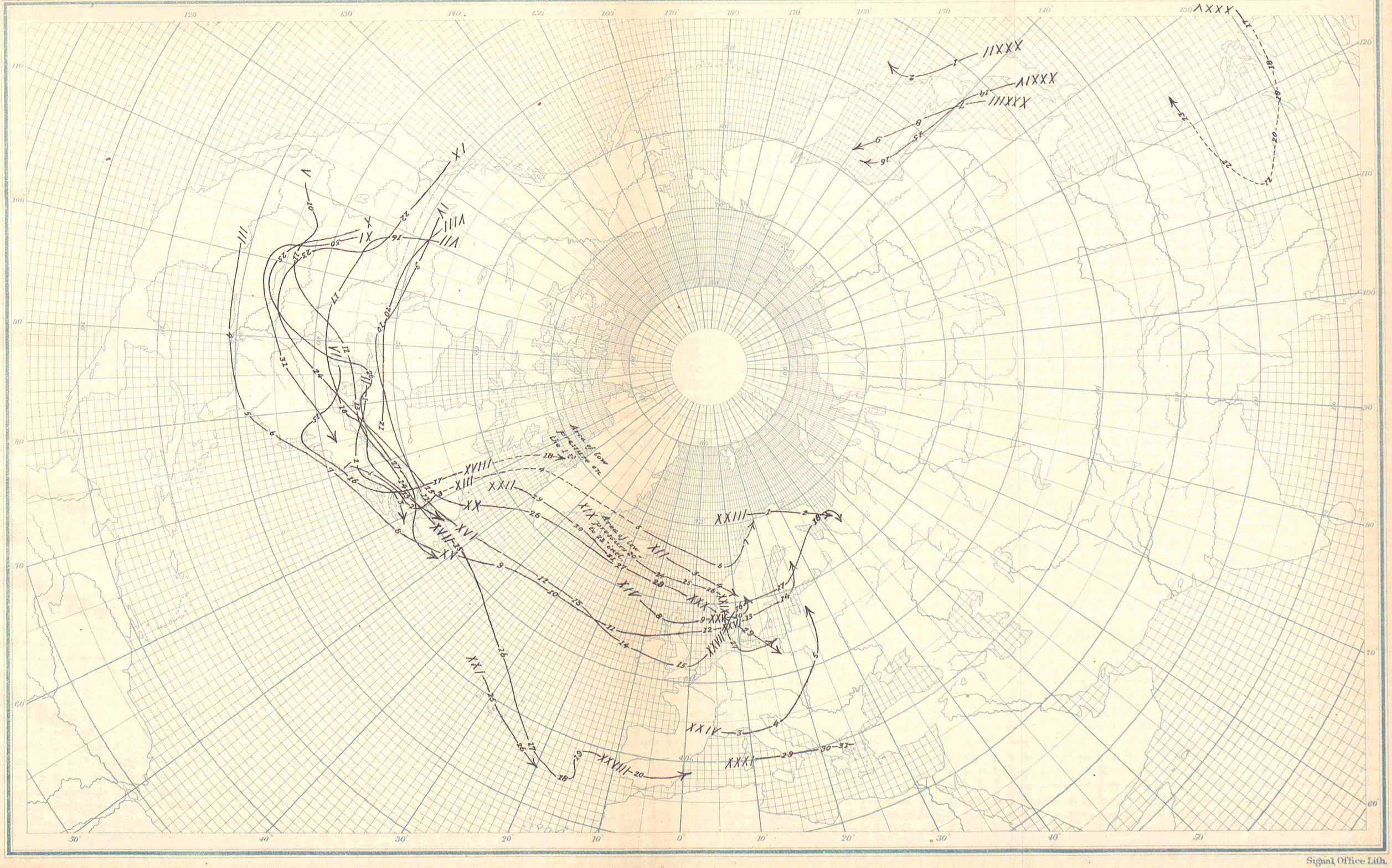
International Chart II. December, 1886. Isobars, Isotherms, and Winds.



Signal Office Lith.

Form No. 106 R---1887.

International Chart III. December, 1886. Tracks of Areas of Low Pressure.



Signal Office Lith.

List of merchant marine steam and sailing vessels from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December, 1886—Continued.

Name of vessel.	Captain.
WILSON LINE.	
Br. s. s. Bassano	Capt. W. Rea.
Buffalo	J. H. Malet.
Galileo	R. Potter.
Marengo	Wm. Abbott.
Salermo	B. H. Rogers.
Sorrento	J. T. Rogers.
MISCELLANEOUS.	
Nor. s. s. Amicitia	P. M. Reimers.
Br. Angerton	S. M. Orr.
Athens	Ch. Off. E. Towns.
Br. Auretta	Capt. G. W. Read, F. R. G. S.
Bedford	Thos. Aitkenhead.
Benalder	James Ross.
Elstow	T. Robertson.
Span. Elcano	V. Ispizua.
Emiliano	F. de Bengoa.
Br. Fitzroy	Henry Gibb.
Hudson	Matthew Wandless.
Leo	C. J. Canles.
Am. Light-ship No. 37	Andrew Jackson.
Br. s. s. Lord Landsowne	C. H. Baskfill.
Am. Lorenzo D. Baker	W. F. Wiley.
Nor. Ludvig Holboeg	N. Houge.
Span. Manuel L. Villaverde	Claudio Perales.
Span. Navarro	S. de Aldecocea.
Br. Peconic	G. Evans.
Ger. Raiatea	J. Viereck.
Br. Rover	Jas. Mansfield.
Saint Romans	H. Campbell.
Br. s. s. Stag	Jas. Adams.
Straits of Gibraltar	Ch. Offi. W. T. Tomlinson.
Strathleven	Capt. C. W. Pearson.
Swed. Victoria	J. A. Windquest.
Br. Viola	L. Murray.
Yedmandale	B. W. Hick.
N. Y. HERALD WEATHER SERVICE.	
Br. Alene	Siders
Alvena	F. McKay.
Athos	Low.
Barraconta	H. Bermpohl.
Am. Caracas	W. M. Hopkins.
Chalmette	J. B. Perry.
Fr. Chateau Lafitte	C. Olive.
Br. City of Chicago	Fred Watkins.
Am. City of Puebla	Deakin.
City of Richmond	A. Redford.
Comal	J. Bolger.
Br. East Anglia	
Egyptain Monarch	W. S. Morgan.
Am. El Monte	J. W. Hawthorne.
El Paso	H. S. Quick.
Br. Furnesia	Hedderwick.
Am. Hudson	H. R. Freeman.
Br. Landaff City	T. H. Gore.
Am. Lone Star	G. W. Mason.
Br. Martello	F. E. Jenkins.
Br. Miranda	E. Bendon.
Am. Morgan City	J. G. Percy.
Am. Newport	W. G. Shackford.
New York	J. C. Percy.
Niagara	G. V. Bemis.
Br. Portia	H. Dawson.
Republic	P. J. Irving.
Samana	W. Taylor.
Sacrabosso	R. S. Thompson.
Vancouver	C. Lindall.
Dtch. W. A. Scholten	G. J. Vis.

Name of vessel.	Captain.
SAILING VESSELS.	
Am. bg. Abbie Clifford	Capt. D. W. Storer.
Br. bk. Abyssinian	S. R. Hilton.
Br. bg. Achsah	A. M. Shaw.
bk. Ada Peard	N. Hocken.
Ger. bg. Adelherd	H. Bollen.
Nor. bg. Adria	J. H. Welden.
Nor. bk. Alpha	O. C. Grünn.
It. bk. Angelica Accame	Vincenzo Niggi.
Am. schr. Anna E. Hutcheson	Daniel Zeluff.
bg. Arcot	J. W. Cates.
Ger. bk. Arnold von Bippen	T. Müller.
Bremerhafen	A. Wisse.
Am. bk. Carib	Ch. Offi. A. P. Goodman.
Ger. sp. Carl	Capt. T. Hashagen.
Am. schr. C. B. Church	N. A. Anderson.
Br. sp. Chas. S. Whitney	Geo. D. Spicer.
bk. Chilena	W. Holten.
sp. City Camp	D. McLeod
Am. schr. Comet	W. H. Aldrich.
Am. bk. Crescent	W. P. Gibbs.
Br. sp. Cyromene	Ch. Off. Jas. Masson.
Ger. sp. Dakota	Capt. N. E. Schaffer.
Am. bg. Daisy Boynton	C. Harding.
Am. sp. E. B. Sutton	C. O. Carter.
Ger. bk. Emilie	W. Siems.
It bk. Est	E. Tassino.
Am. bk. Ethel	W. Thompson.
Br. sp. F. B. Taylor	J. A. Tilley.
Am. schr. Florence Rogers	J. S. F. McLeod.
Ger. sp. Friedlander	J. Bollmer.
Am. bk. General Fairchild	Mate H. R. Coombs.
Nor. bk. Haavund	Capt. C. Ullenaess.
Am. Harriet S. Jackson	W. T Bacon.
Am. Harvard	Samuel Pray.
Ger. sp. Hedwig	Th. Minssen.
Am. sp. Henry Villard	F. B. Perkins.
Am. Hoogly	W. P. Lewis.
Br. bk. Iodine	Adam Smith.
Am. bk. James S. Stone	C. F. Barstow.
Ger. Janbass	Fr. Abken.
Am. bk. Jane Adeline	G. W. Cates.
Am. bkt. John J. Marsh	F. P. Whittier.
schr. John S. Wood	Wm. A. Bernard.
bk. José E. More	Asmus Lenhard.
bkt. Josephine	Chas. Brown.
Ger. sp. J. W Gildermeister	A. Lehmann.
Br. bk. Katahdin	C. W. Seeley.
Ger. bk. Kepler	G. Atken.
Ger. bk. Leocadia	John Stohff.
Am. bkt. Levanter	Geo. F. Gerry.
Br. bg. Lilian	H. F. Schive.
Br. bkt. Linnet	Ch. Offi. W. A. Hayward.
Fr. bk. Long Cowes	Capt. H. Leroy.
Am. bg. L. & W. Armstrong	A. Alexander.
Br. sp. Mabel Taylor	Chas. E. Durkee.
Am. bg. Manson	E. T. Page.
Swed. bk. Maria Margretha	J. E. Fogman.
Br. Mary	Chas. Acocks.
Aus-Hu bk Matteo	G. V. Vidulish.
Br. bk. Minnie G. Whitney	J. D. Foley.
Am. Mohican	B. F. Berry.
bg. Moraney	Ch. Offi. R. H. Cox.
Nor. bk. Moland	Capt. T. Omundson.
Am. schr. N. Hand	F. G. Phiffs.
Ger. sp. Palme	Wm. Bahls.
Am. bkt. Pearl	John B. Zimmer.
Ger. bk. Pillau	G. Gerlach.
Am. bk Ralph M. Hayward	J. Baxter.
Br. bk. River Ganges	T. Nalle.

Name of vessel.	Captain.
SAILING VESSELS—Continued.	
Br. bkt. Rosebud	Capt. John Collie.
It. Rosina	Giocomo Tomaselli.
Am. Sachem	J. C. Bartlett.
Br. Sapphire	Geo. M. Murray.
Am. bk. Sarah	L. R. Hale.
Br. sp. Stephen D. Horton	J. Spicer.
bk. Thomas A. Goddard	A. C. Sears.
Tiber	D. Kelff.
Am. Tillie Baker	Jas. H. Carty.
Br. Tuck Sing	Geo. H. Ryder.
Am. Schr. Winnie Lawry	A. McRitchie.
Br. sp. Winnifred	R. MacDonald.
UNITED STATES NAVAL.	
U. S. S. Adams	Louis Kempff.
U. S. S. Alliance	C. McGregor.
U. S. S. Brooklyn	E. O. Matthews.
U. S. S. Essex	Theo. F. Jewell.
U. S. S. Galena	C. W. Chester.
U. S. S. Hartford	I. H. Gillis.
U. S. S. Iroquois	J. C. Watson.
U. S. S. Jamestown	C. J. Train.
U. S. S. Juniata	G. T. Davis.
U. S. S. Lancaster	S. L. Breese.
U. S. S. Marion	Merrill Miller.
U. S. S. Mohican	B. F. Day.
U. S. S. Monocacy	Henry Glass.
U. S. S. Monongahela	S. H Barker.
U. S. S. Omaha	T. O. Selfridge.
U. S. S. Ossipee	J. F. McGlensey.
U. S. S. Palos	T. Nelson.
U. S. S. Pensacola	R. D. Hitchcock.
U. S. S. Pinta	J. S. Newell.
U. S. S. Portsmouth	Edwin White.
U. S. S. Quinnebang	C. S. Sperry.
U. S. S. Ranger	F. A. Cook.
U. S. S. Saratoga	C. H. Davis.
U. S. S. Tallapoosa	Wm. Whitehead.
U. S. S. Tennessee	Robert Boyd.
U. S. S. Vandalia	H. L. Howison.
BRITISH NAVAL.	
H. M. S. Alexandra	J. Fellowes, C. B.
H. M. S. Champion	A. T. Powlett.
H. M. Dockyard, Bermuda	J. F. G. Grant.
H. M. S. Dreadnought	H. F. Stephenson.
H. M. S. Dart	A. M. Fields.
H. M. S. Flying Fish	J. P. McLear.
H. M. S. Lark	T. F. Pullen.
H. M. S. Minotaur	J. Bruce.
H. M. S. Myrmidon	R. F. Hoskyn.
H. M. S Penguin	Haygarth.
H. M. S. Superb	C. E. Buckle.
H. M. S. Woodlark	G. W. Burt.
PORTUGUESE NAVAL.	
H. P. M. S. Tamega	
H. P. M. S. Yaire	
H. P. M. S. Alf. de Albuquerque.	
DUTCH.	
H. D. M. S. Prins Hendrick der Nederlander.	

List of foreign stations and observers from which International Simultaneous Meteorological reports were received at the Office of the Chief Signal Officer, U. S. Army, Washington, D. C., for the month of December, 1886.

Stations.	Observers.
AUSTRALIAN.	
Adelaide, South Australia	C. L. Wragge.
Hobart Town, Tasmania	Com. J. Shortt, R. N.
Melbourne, Victoria	R. L. J. Ellery.
AUSTRO-HUNGARIAN.	
Agram	Prof. Ivan Stozir.
Cracow, I. R. Observatory	Dr. Wierzbiski.
Eperies	Julius Mikolik.
Gratz	Andreas Rospini.
Kremsmunster Observatory	The Staff.
Lemberg	Dr. T. Stanecki.
Pola	Fr. Ceselrohe.
Szathmar	Aloysius Daubner, S. J.
Szegedin	Emerick Markos.
Trieste	Naval Observatory.
Vienna	I. R. Central Met. Obs'y.
BRAZILIAN.	
Rio de Janeiro Imperial Obs	Prof. E. Cruls, Director.
BRITISH.	
Aberdeen	W. Boswell.
Bidston, Liverpool Obs'y	John Hartnup.
Bradford, Yorkshire	McLandsborough & Preston.
Bridgetown, Barbadoes, W. I	G. Beater.
Chatham, School M. E	P. D. P. McHugo, R. E.
Falmouth, Observatory	The Staff.
Fort Napier, Natal	Thomas Murray, M. S. C.
Galway, Queen's College	Wm. Ryan.
Gibraltar, Mediterranean	E. Irvine.
Greenwich, Royal Observatory	The Staff.
Guernsey	A. Collenette, F. R. M. S.
Kew, Observatory	The Staff.
Leicester, Museum	J. C. Smith.
Malta, Mediterranean	R. R. Willan.
Nassau, Bahamas	J. A. Kerr.
Oxford, Radcliffe Observatory	The Staff.
Plymouth	John Merrifield.
Swaubister, Orkneys	W. I. Fortesque.
Scutari Cemetery, Turkey	W. H. Lyne.
Stonyhurst, Observatory	Rev. S. J. Perry.
Valencia, Observatory	The Meteorological Office.
Sub-series	
Gozo, Episcopal Seminary	Rev. Felice Lo Re, S. J., Dir.
CANADIAN.	
Bathurst, N. B	Miss Andrews.
Bird Rocks	
Calgarry	
Chatham, N. B	G. A. Blair.
Cornwall, Ontario	Jas. Smith, M. A.
Dalhousie, N. B	H. A. Johnson.
Father Point, Quebec	J. McWilliams.
Fort Garry, Manitoba	James Stewart.
Fredericton, N. B	Dr. Harrison.
Grand Manan, N. B	J. Chipman Seeley.
Granton, Ontario	Jas. Grant.
Halifax, N. S	A. Allison.
Hamilton, Ontario	Geo. Dickson, B. A.
Kingston, Ontario	A. P. Knight, M. A.
Little Glace Bay, N. S	C. H. Rigby, C. E.
London, Ontario	E. B. Reed.
Medicine Hat, N. W. T	John Ewart.
Minnedosa, N. W. T	Rev. J. M. Wellwood.
Montreal, Quebec	C. H. McLeod, C. E.
Ottawa, Ontario	A. McGill, M. A.
Parry Sound, Ontario	Rev. R. Mosley.
Peterborough, Ontario	J. H. Long.
Port Arthur, Ontario	W. P. Cooke.
Port Dover, Ontario	H. Morgan.
Port Stanley, Ontario	M. Payne.
Qu' Appelle, N. W. T	Leslie Gordon.
Quebec, Quebec	Captain Ashe, R. N.
Rockliffe, Ontario	W. H. McIntyre.
St. Andrews, N. B	S. T. Gove, M. D.
St. John, N. B	G. Hutchinson.
Saint Pierre, N. F	The Commandant.
Sangeen, Ontario	
Southwest Point of Anticosti	
Stratford, Ontario	W. McBride, M. A.
Swift Current	
Sydney, C. B	T. C. Hill, C. E.
Toronto, Ontario	Magnetic Observatory.
Woodstock, Ontario	Prof. N. Wolverton, M. A.
Yarmouth, N. S	Lieut. F. E. Wilmot, R. N
Sub-series.	
Saint Johns, N. F	J. Higgins.
CHINESE.	
Foochow	J. N. Segardal.
Hong Kong Observatory	The Staff.
Sub-series.	
Zi-Ka-Wei, near Shanghai	M. Marc Dechevrens, S. J.
South Cape, Formosa	G. Taylor.
DANISH.	
Copenhagen	Oversergent Fischer.
Fanöe	Overloerer Lauridsen.
Godthaab	S. Kleinschmidt.
Jacobshavn	
Stykkisholm	A. O. Thorlacius.
Thorshavn	Overloever Bergh.
Upernavik	
Vestervig	Loerer Oesterbol.
FRENCH.	
Agen, Normal School	M. Labroue. Directors.
Alençon, Normal School	M. Nicot, Director.
Arras, Normal School	M. Sion, Director.
Avignon, Normal School	M. Girand, Director.
Bar-sur-Seine	M. Saillard, Director.
Beauvais, Normal School	M. Cadoret.
Besançon, Normal School	M. Gobin, Director.
Bordeaux, Observatory	M. Rayet, Director.
Bourges, Normal School	M. Sauvageot, Director.
Brest, Naval Observatory	M. de Kermaree, Director.
Caen, Normal School	M. Berson, Director.
Châlons-sur-Marne, N. School	M. Jadot, Director.

Stations.	Observers.
FRENCH—*Continued.*	
Charleville, Normal School	M. Noël, Director.
Clermont-Ferrand, Obs'y	M. Alluard, Director.
Cluny, Normal School	M. de Villemontée, Director.
Commercy, Normal School	M. Vaissado, Director.
Gap, Normal School	M. Poussel, Director.
Greasque, du Rhone	M. Kina, Director.
Grenoble, Normal School	M. Ablard, Director.
Guéret, Normal School	M. Delorme, Director.
Lescar, Normal School	M. Lefevre, Director.
Lorient, Naval Observatory	Lt. T. Carré, Director.
Lyon, St. Genis-Laval	M. André, Director.
Mans, Normal School	M. Tenot, Director.
Marseille, Observatory	M. Stephan, Director.
Montlouis	M. Cave for Dr. Fines.
Montpellier, Normal School	M. Galzin, Director.
Mont Ventoux	M. Blanc.
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Bamberg	Prof. Dr. Hoh.
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Breslau	Royal University Obs'y.
Carlsruhe	Albert Senz.
Cassel	Dr. H. Möhl.
Frankfort-on-the-Main	Physical Society.
Friedrichshafen	Wilhelm, Chief Tel.
Hamburg	Carl H. Seeman.
Kiel	Prof. Dr. G. Karsten.
Leipsic, Astronomical Obs'y	H. Leppig, Assistant.
Memel	Iissermann.
Munich	Dr. C. Lang.
Neufahrwasser	A. Lothes.
Neustadt, Palatinate	Prof. Dicknether.
Stuttgart	Dr. L. Meyer.
Wustrow	Profs. Brandes & Reimer.
GREEK.	
Athens	Kokkides & Wourlisch.
INDIAN.	
Kurrachee	
Deesa	
Bombay	
Poona	
Belgaum	
Lahore	
Roorkee	
Agra	
Nagpur	
Jubulpore	
Lucknow	
Allahabad	
Patna	
Hazaribagh	
Cuttack	
Calcutta	
Chittagong	
Dhubri	
Sibsagar	
Jeypore	
Bellary	
Trichinopoly	
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Milan	Prof. G. V. Schiapparelli.
Padua	Prof. Dott. Lorenzoni.
Moncalieri	Prof. P. F. Denza.
Genoa	Prof. G. M. Garibaldi.
Pesaro	Prof. Luigi Guidi.
Florence	Prof. Constantino Pittei.
Leghorn	Prof. P. Monte.
Rome	Prof. P. Tacchini.
Lecce	Prof. C. de Giorgi.
Cosenza	Prof. D. Conti.
Palermo	Prof. G. Cacciatore.
Syracuse	Sig. V. Giuliano.
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Valdobbia	Prof. P. F. Denza.
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Awomori	K. Ogawa.
Fushiki	T. Enas.
Gifu	R. Ikuchi and S. Yaraki.
Hakodate	T. Wakayama.
Hamamatsu	Sakigawa and Miyake.
Hiroshima	Y. Okamoto.
Itsurhara	H. Tanaka.
Kanazawa	S. Kuriyama.
Kagoshima	G. Miyanohara.
Kioto	M. Negishi.
Miasaka	T. Ishitain & T. Saki.
Miyako	K. Suwa & K. Ishie.
Nagasaki	K. Yamasaki and M Chin.
Nemuro	M. Itabashi.
Niigata	M. Morita and C. Tomikawa.

Stations.	Observers.
JAPANESE—*Continued.*	
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Numadzu	R. Kaneda.
Osaka	H. Omura.
Sakai	K. Yamawchi & P. Yoshimura
Shimonoseki	S. Nagasuye.
Soya	R. Tomitokoro.
Supporo	K. Kugly.
Tokei	The Staff.
Wakayama	K. Sakai.
MAURITIUS.	
Mauritius R. A. Observatory	The Staff.
MEXICAN.	
Guanajuato	Prof. Vicente Fernandez.
Leon	Prof. M. Leal & Espana.
Mazatlan	C. Carmina.
Mexico	The Staff.
Zacatecas	J. A. Bonilla, M. E.
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Flushing	
Groningen	
Helder	
Hellevoetsluis	
Utrecht	G. F. C. Zaalberg.
Sub-series.	
Batavia	Dr. S. Figee.
NORWEGIAN.	
Bergen	
Brono	
Christiania	
Gjæsvær	
PORTUGUESE.	
Funchal, Madeira	Capt. D. A. de Cunha.
Lisbon, Observatory	The Staff.
Ponta Delgada, Azores	
St. Vincent, Cape Verd	
San Salvador	
Serra da Estrella	
RUSSIAN.	
Archangel	Capt. Sseliwerstow.
Astrakan	Capt. Wisganow.
Baku	
Barnaul	Meteorological Office.
Dorpat	Blumbach.
Ekaterinburg	Meteorological Observatory.
Elisavetgrad	
Irkutsk	Ed. Stelling.
Kasalinsk	Butkewitsch.
Kasan	Observatory.
Kem	M. Kosnobr.
Kertch	E. M. Zacmsipeyz.
Kieff	Observatory.
Korostishev	
Koslov	
Lgov	R. I. Ssaweljew, Engineer.
Libau	E. Quaas.
Lugan	Meteorological Observatory.
Moscow	Meteorological Observatory.
Nerchinsk	
Nikolaiev	Capt. Kurdakow.
Nikolaievsk-on-the Amoor	Schohberg.
Nikolsk	Nadeshdin.
Perm	
Petro-Alexandrovsk	Walther.
Petrozavodsk	Dr. Bergmann.
Pinsk	
Poti	
St. Petersburg	Central Physical Observatory.
Samarkand	Dresch.
Sevastopol	Colonobr.
Tashkend Laboratory	Teich, A. M.
Tiflis	Physical Observatory.
Troitskosavsk	
Viatka	
Warsaw	Astronomical Observatory.
Yeniseisk	Wishnewzky.
SCOTCH.	
Leith	J. Bolam & Geo. Redpath.
SPANISH.	
Barcelona Met. Observatory	B. Jelin.
Bilbao, Met. Observatory	Tomas Eschriche.
Burgos, Met. Observatory	Domingo Martin.
Madrid, Royal Observatory	The Staff.
Santiago, Met. Observatory	R. Gil Villanueva, Director.
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Manila, Philippine Islands	F. Faura, S. J.
San Fernando, Naval Obs'y	Capt. C. Pujazon, R. N.
San Juan de Porto Rico, W. I.	Enrique Gadea, Ch'f Eng'r.
SWEDISH.	
Haparanda	
Umea	
Hernosand	
Stockholm	
Wisby	
Sub-series.	
Upsala	Nils. Ekholm.
SWISS.	
Geneva	
TURKISH.	
Constantinople	The Observatory.
Valona	A. Bertrand.
Sub-series.	
Beirut, Lee Obs'y, Syria	R. H. West, B. A., Director.
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Paramaribo, D. Guiana, S. A.	Dr. C. J. Hering.
Rivas, Nicaragua, C. A.	Earl Flint, M. D.
San José de Costa Rica	John J. de Jonge, C. E.
Vera Cruz	Capt. Geo. E. Powell.